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ABSTRACT

Using data from the 1993-1993 and 1999-2000 National Postsecondary Student Aid Study (NPSAS:93 and NPSAS:2000), this study examined the most recent trends in net price of college. Changes in net price were analyzed for higher education as a whole and within each type of institution for students with various levels of income and financial need. Students included in this study were full-time undergraduates at public four-year, private not-for-profit, and public two-year institutions. Reflecting both expanded eligibility for federal loans and a response to increased tuition and fees, undergraduate borrowing increased significantly over the period. The percentage of full-time undergraduates who relied on federal student loans to help pay their tuition increased from 30% to 43% overall. Although no increase in borrowing was observed for students in the lowest income quartile, the likelihood of borrowing increased for middle-income and high-income undergraduates. There was a relatively small increase in the percentage of full-time undergraduates who were awarded state grants, but undergraduates were much more likely to receive institutional grant aid in 1999-2000. The percentage of full-time undergraduates who were awarded institutional grant aid increased from 23% to 31% overall, and the average amount of aid also increased. However, when all grants were subtracted from tuition, no change could be detected in the average amount that full-time undergraduates paid between 1992-1993 and 1999-2000. The same was not found for the net price of attendance, a finding that was consistent across all institution types included in the study. Three appendixes contain a glossary, technical notes, and supplementary tables. (Contains 27 tables, 10 figures, and 21 references.) (SLD)

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Changes in Net Price of College Attendance Between 1992-93 and 1999-2000

U.S. Department of Education
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Statistical Analysis Report September 2002

Postsecondary Education Descriptive Analysis Reports

What Students Pay for College:
Changes in Net Price of College Attendance Between 1992–93 and 1999–2000

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Executive Summary

Introduction

Average tuition adjusted for inflation more than doubled between 1981 and 2000 at public and private not-for-profit 4-year colleges and universities (The College Board 2001a). During the same period, median family income grew 27 percent, and financial aid per full-time-equivalent student grew 82 percent. Responding to increasing public concern over the affordability of higher education, Congress established the National Commission on the Cost of Higher Education to examine the causes for rising costs. The Cost Commission subsequently issued a report called *Straight Talk About College Costs and Prices* (1998), which distinguished *price* from *cost* and defined these terms differently. Cost is the amount it takes an institution to educate a student (i.e., the production cost per student), whereas price is the amount students and their families pay to attend. The price that students and families pay after subtracting financial aid awards is referred to as *net price*. The report concluded that while net price did not increase as substantially as did the "sticker price" charged by institutions, it nevertheless grew at a faster rate than did median income and disposable per capita income during the late 1980s and early 1990s at all three types of colleges and universities studied (public 4-year, private not-for-profit 4-year, and public 2-year institutions).

This study examines the most recent trends in net price. The two major goals of this study are 1) to analyze changes in net price between 1992–93 and 1999–2000 and 2) to examine, within each type of institution, changes in net price over time for students with various levels of income and financial need. The study is a follow-up to a recent congressionally mandated National Center for Education Statistics (NCES) study (Cunningham et al. 2001a) (hereafter referred to as "The Cost Study"), which examined trends in college costs and how costs relate to prices for specific types of institutions.

Changes in Financial Aid Awards Between 1992–93 and 1999–2000

This study uses data from the 1992–93 and 1999–2000 National Postsecondary Student Aid Study (NPSAS:93 and NPSAS:2000). These two NPSAS surveys represent periods before and after major changes in federal financial aid policy went into effect under the 1992 reauthorization of the Higher Education Act (HEA-92). The most significant change affected the federal (Stafford) loan eligibility of dependent students (students who are considered financially dependent on their parents for purposes of financial aid eligibility). Their eligibility for need-based subsidized loans increased, and for the first time they became eligible for unsubsidized student loans. In addition to changes in federal financial aid policy, there were changes in state and institutional grant aid that must be taken into account.

The students included in this study were full-time undergraduates at public 4-year, private not-for-profit 4-year, and public 2-year institutions.

For these students, the major changes in financial aid awards between 1992–93 and 1999–2000 were as follows:

- Reflecting in part expanded eligibility for federal loans as well as a response to increased tuition and fees, undergraduate borrowing increased significantly. The percentage of full-time undergraduates who relied on federal student loans to help pay for their college education increased from 30 to 43 percent overall. After adjusting for inflation, the average amount of a federal student loan also increased, from about $3,900 to $4,800. No increase in the percentage of students borrowing was detected for undergraduates in the lowest income quartile—roughly half borrowed in both survey years—but the likelihood of borrowing increased for both middle-income undergraduates (from 32 to 45 percent) and high-income undergraduates (from 15 to 31 percent).
- There was a relatively small increase in the percentage of full-time undergraduates who were awarded state grants (from 17 to 22 percent overall). The average amount awarded increased from about $1,800 to $2,000.
- Undergraduates were much more likely to receive institutional grant aid in 1999–2000 than in 1992–93. The percentage of full-time undergraduates who were awarded institutional grant aid increased from 23 to 31 percent overall, and the average amount of aid that students received increased from about $4,200 to $4,700.

An important component of this study is to determine how these changes in financial aid awards—especially the significant increase in borrowing—are reflected in changes in net price over the same period.

Data Analyzed in This Study

Data from NPSAS:93 and NPSAS:2000 are used to compare changes in net tuition and net price over time, after adjusting for inflation. As with The Cost Study, the current study separated public from private not-for-profit colleges and universities and then further separated the public and private 4-year sectors into two aggregated Carnegie classifications: 1) research and doctoral institutions and 2) comprehensive and baccalaureate institutions. The study also analyzed net price changes for public 2-year institutions (also known as community colleges). The analysis excluded students who attended for-profit institutions and other less-than-4-year institutions, as well as those who attended more than one institution. Sample sizes for the excluded institutions in the NPSAS surveys were relatively small and would have yielded few meaningful comparisons. Also, in order to ensure that the amount of tuition[1] paid and the amount of financial aid awarded were comparable between 1992–93 and 1999–2000, only full-time undergraduates attending for the full academic year (i.e., at least 9 months) were included in the analysis. (These students are referred to as "full-time students" throughout the report.) The percentage of students who attended full time, full year ranged from about 50 to 60 percent at 4-year institutions, depending on the institution sector and the NPSAS year, and from 14 to 19 percent at public 2-year colleges.

Measures of Net Tuition and Net Price

To determine the actual tuition amounts students paid, as opposed to the published sticker price, two measures of net tuition were defined:

[1]Use of the term "tuition" as opposed to "fees" is arbitrary. The terms can be interchangeable to a large extent. Some institutions only charge tuition, some only fees, and some both.

- *net tuition 1:* total tuition minus federal grants
- *net tuition 2:* total tuition minus all grants

The first net tuition measure takes into account federal grants (primarily Pell), which are awarded to the lowest income students. Changes in net tuition 1 show how much federal grants alone would reduce tuition (mostly for low-income students) if other financial aid sources were not available. The second net tuition measure takes into account all grants—federal, state, institutional, and other.[2]

Tuition is only part of what a college education costs students and families. The total price of attendance, which is estimated by colleges in student budgets, is based on the average tuition as well as living expenses for different types of students. It includes books and supplies, rent, food, and other living expenses in addition to tuition. Typically, nontuition expenses represent about two-thirds of the total price at public 4-year institutions and somewhat less than half of the total price at private not-for-profit 4-year institutions. This study analyzed changes for three measures of net total price of attendance:

- *net price 1:* total price minus federal and state grants[3]
- *net price 2:* total price minus all grants
- *net price 3:* total price minus all grants and loans[4]

Net price 1, the price students would pay after subtracting federal and state grants from total price, is the price before the institution commits its own funds to institutional aid and before the student commits to a student loan. Net price 2, the price of attendance after subtracting all grants, is the amount students would pay without taking out a student loan. Net price 3 is the amount students and their families pay out of pocket after taking into account all sources of financial aid, including loans (both subsidized and unsubsidized).[5]

Changes in Net Tuition and Net Price

After adjusting for inflation, the average total tuition increased between 1992–93 and 1999–2000 across all institution types examined. When federal grants were subtracted from total tuition (net tuition 1), the average net tuition also increased over time except at public 2-year colleges (figure A). However, when *all* grants were subtracted from tuition (net tuition 2), no changes in average net tuition were detected for any institution type. These findings suggest that total grant aid increased enough to help students and families meet the average increase in total tuition between 1992–93 and 1999–2000.

Consistent with the findings for college tuition, after taking inflation into account, the average total price of college attendance increased across all institution types, as did net price after subtracting federal and state grants (net price 1). After all grants were subtracted (net price 2), the price of attendance still increased for many

[2]Grants from "other sources" include employer tuition reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[3]Net price 1 is not meant to be analogous to net tuition 1. Net tuition 1 (tuition minus federal grants) is a measure typically used to show the purchasing power of Pell Grants. Net price 1 (price minus federal and state grants) is the amount institutions typically take into account in determining whether and how much institutional aid will be awarded.

[4]Work-study, which is awarded to about 5 percent of undergraduates, is not included in the net price calculations. Although work-study is officially financial aid, in practice work-study earnings are no different from the earnings received from any other job held while enrolled.

[5]Does not include federal loans taken out by undergraduates' parents, which are available only to dependent students' parents, among whom about 6 percent took out such loans (Berkner 2002).

Figure A.—Overall changes in net tuition and net price for full-time, full-year undergraduates between 1992–93 and 1999–2000, by institution type

	Net tuition		Net price		
	Net tuition 1 (tuition minus federal grants)	Net tuition 2 (tuition minus all grants)	Net price 1 (price minus federal and state grants)	Net price 2 (price minus all grants)	Net price 3 (price minus all grants and loans)
Public 4-year					
Research and doctoral	+	ns	+	+	–
Comprehensive and baccalaureate	+	ns	+	ns	–
Private not-for-profit					
Research and doctoral	+	ns	+	+	ns
Comprehensive and baccalaureate	+	ns	+	ns	–
Public 2-year	ns	ns	+	+	ns

+ Increase ($p<0.05$).
– Decrease ($p<0.05$).
ns No significant change detected.

NOTE: Comparisons were made after adjustments for inflation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

undergraduates. Although the increase in total grants was enough to cover the increase in tuition for undergraduates at all institution types, it did not cover the increase in price (which includes living expenses) for undergraduates attending research and doctoral institutions (both public and private not-for-profit) and public 2-year colleges. Not until loans were also subtracted from price (net price 3) was no increase observed between the average amount students paid in 1992–93 and what they paid in 1999–2000 across all institution types. At public 4-year institutions and private not-for-profit comprehensive and baccalaureate institutions, net price 3 (total price minus all grants and loans) actually *declined* between 1992–93 and 1999–2000. The decline in net price 3 is consistent with the observed increase in borrowing over the same time frame. In other words, compared with their peers in 1992–93, full-time students at public 4-year institutions and private not-for-profit comprehensive and baccalaureate institutions in 1999–2000 paid less out of pocket and increased their debt.

Not all students were affected equally by changes in net price between 1992–93 and 1999–2000. When all grants were taken into consideration (net price 2), students in the lowest income quartile experienced no significant change in net price for any institution type (i.e., no change in net price 2 was detected). In contrast, in nearly all cases, middle- and high-income students did experience an increase in price after all grants were subtracted (net price 2). In other words, between 1992–93 and 1999–2000, the increase in combined federal, state, institutional, and other grant aid awarded was sufficient to offset increases in the price of attendance for low-income students, but not for middle- or high-income students.[6]

The following discussion describes tuition and price changes for each institution type analyzed in the study.

[6]The analysis could not take into account tax credits enacted in the 1990s to assist middle-income students, which may have reduced the burden of the increase in price for certain middle-income students and their families.

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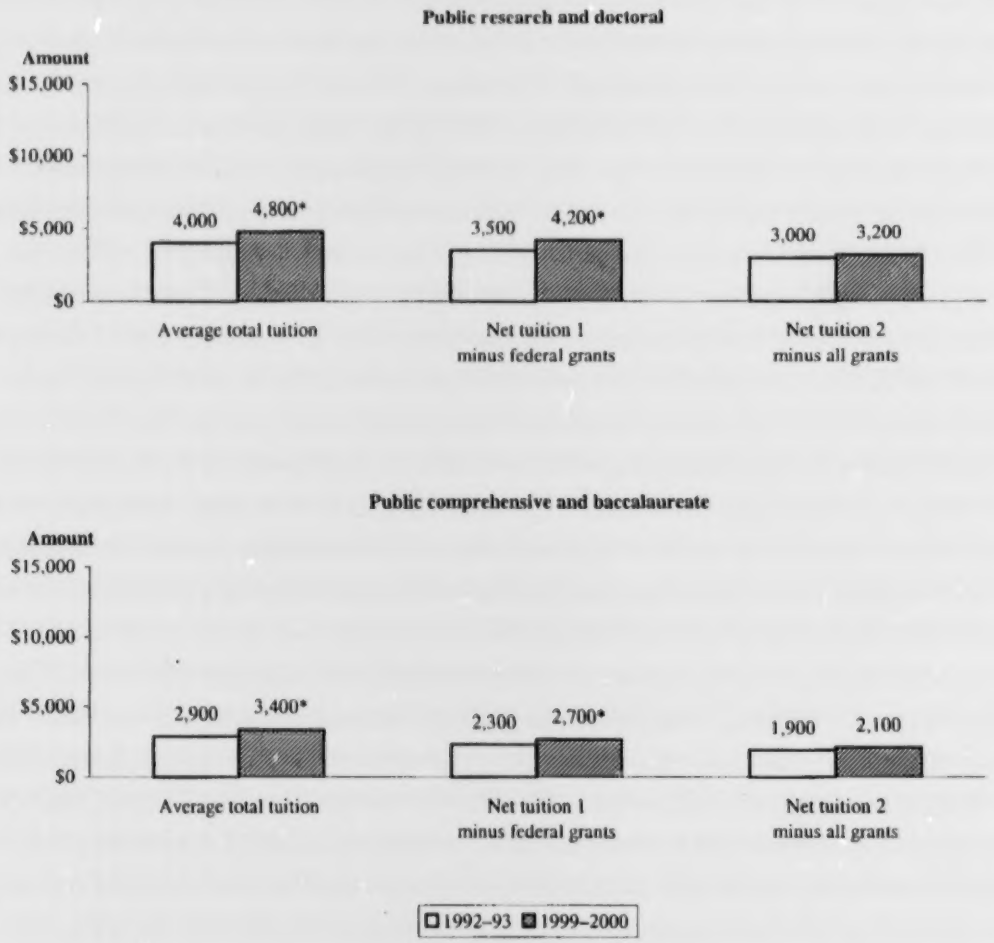
Public 4-Year Colleges and Universities

Tuition changes. Adjusting for inflation, between 1992–93 and 1999–2000 the average total tuition at public research and doctoral institutions increased from about $4,000 to $4,800 (figure B).

After subtracting federal grants (net tuition 1), net tuition rose from about $3,500 to $4,200. However, when all grants were subtracted from tuition (net tuition 2), no increase was detected in net tuition amounts (about $3,000). Similar patterns were observed for public comprehensive

Figure B.—Among full-time, full-year undergraduates attending public 4-year institutions, average total tuition and net tuition in 1992–93 and 1999–2000, in constant 1999 dollars



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

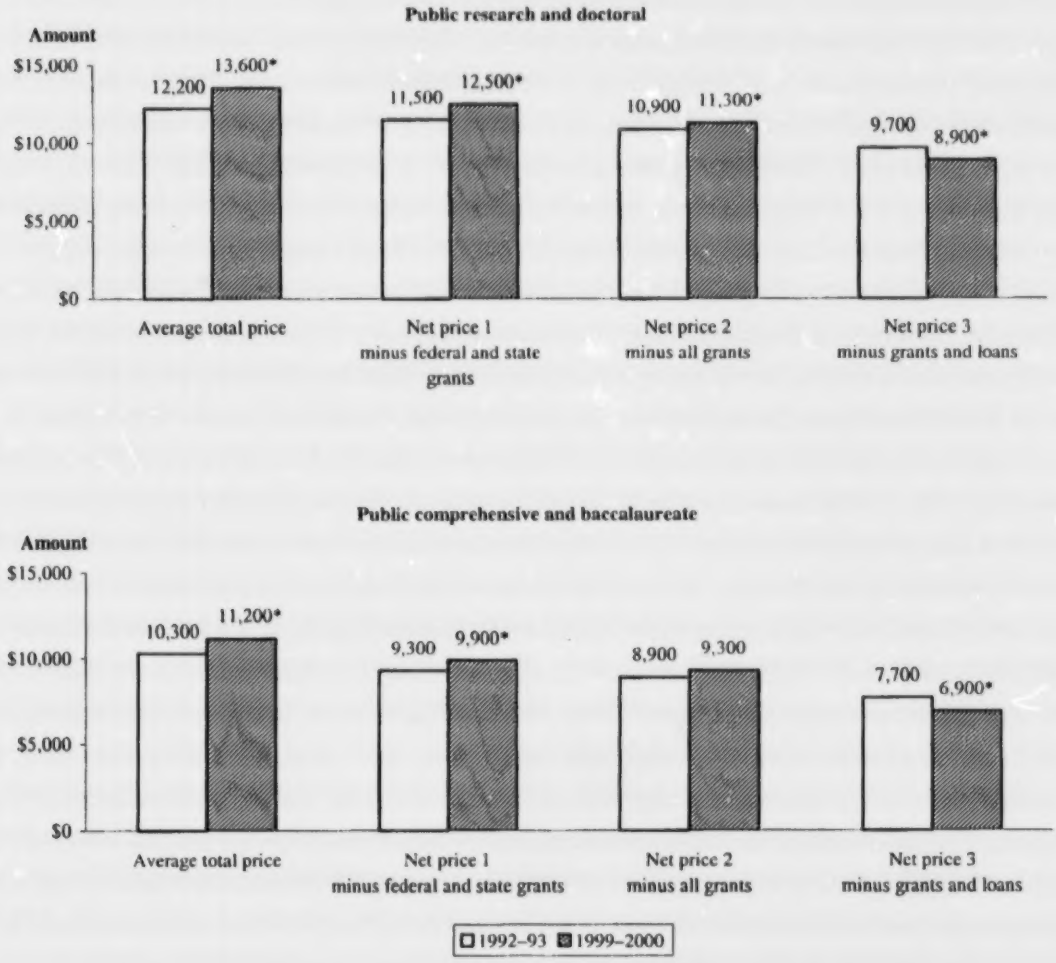
NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

and baccalaureate institutions: total tuition increased from about $2,900 to $3,400; net tuition 1 increased from about $2,300 to $2,700; but no difference was detected in net tuition 2 after all grants were subtracted (about $2,000).

Price changes at public research and doctoral institutions. Between 1992–93 and 1999–2000, the average total price of attendance at public research and doctoral institutions increased from about $12,200 to $13,600 (figure C). After

Figure C.—Among full-time, full-year undergraduates attending public 4-year institutions, average total price of attendance and various net prices in 1992–93 and 1999–2000, in constant 1999 dollars



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

subtracting federal and state grants (net price 1) or all grants (net price 2), net price still increased However, when all grants and loans were subtracted from total price, the average amount that undergraduates paid out of pocket was actually less in 1999–2000 ($8,900) than in 1992–93 ($9,700).

Price changes at public comprehensive and baccalaureate institutions. At public comprehensive and baccalaureate institutions, the total price of attendance increased for full-time undergraduates (from $10,300 to $11,200), as did net price 1 (price minus federal and state grants) (from $9,300 to $9,900). When all grants were subtracted (net price 2), however, no increase was detected in the average net price. As at public research and doctoral institutions, the net price of attendance declined between 1992–93 and 1999–2000 (from $7,700 to $6,900) after subtracting all grants and loans from the total price of attendance (net price 3).

Price changes by student income level. Both the average total price and net price 1 (price minus federal and state grants) increased across all income levels for students attending public research and doctoral institutions and for middle- and high-income students attending public comprehensive and baccalaureate institutions. However, when all grants were subtracted (net price 2), no increase was detected for low-income students at either type of public 4-year institution. Increases, on the other hand, were observed for middle- and high-income students for net price 2 (figure D). When loans and grants were subtracted (net price 3), no increases were detected for any income group at either type of institution, and declines in price due to increased borrowing were detected for low- and middle-income students.

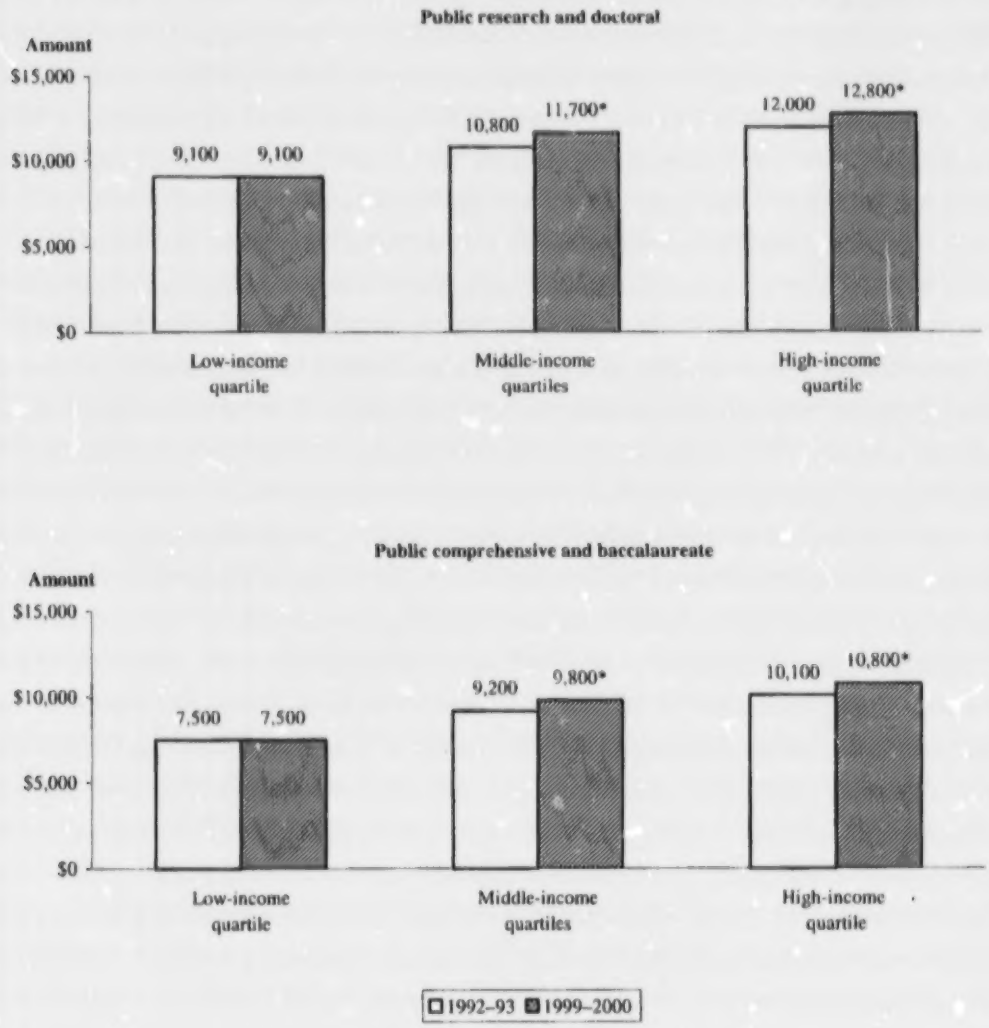
Private Not-for-Profit 4-Year Colleges and Universities

Tuition changes. After adjusting for inflation, average total tuition at private not-for-profit research and doctoral institutions increased from about $16,300 in 1992–93 to about $19,700 in 1999–2000 (figure E). Tuition levels still increased between the two periods after federal grants were subtracted (net tuition 1). However, after all grants were subtracted (net tuition 2), no change was detected in average net tuition levels (about $12,000). Tuition amounts for private not-for-profit comprehensive and baccalaureate institutions followed a similar pattern: average total tuition increased from about $12,300 to $14,000; net tuition increased from $11,500 to $13,200 after federal grants were subtracted; and no difference was detected in net tuition after all grants were subtracted (about $8,000).

Price changes at private not-for-profit research and doctoral institutions. The total price of attending private not-for-profit research and doctoral institutions increased from about $25,200 to $29,300 (figure F). The net price after subtracting federal and state grants (net price 1) also increased, as did the net price after subtracting all grants combined (net price 2). However, when loans and grants were subtracted from total price (net price 3), undergraduates paid roughly $18,000 in both 1992–93 and 1999–2000 to attend private not-for-profit research and doctoral institutions.

Price changes at private not-for-profit comprehensive and baccalaureate institutions. At private not-for-profit comprehensive and baccalaureate institutions, the average total price of attendance increased from about $19,600 to

Figure D.—Among full-time, full-year undergraduates attending public 4-year institutions, the net price after subtracting all grants (net price 2) in 1992–93 and 1999–2000, in constant 1999 dollars, by income quartiles



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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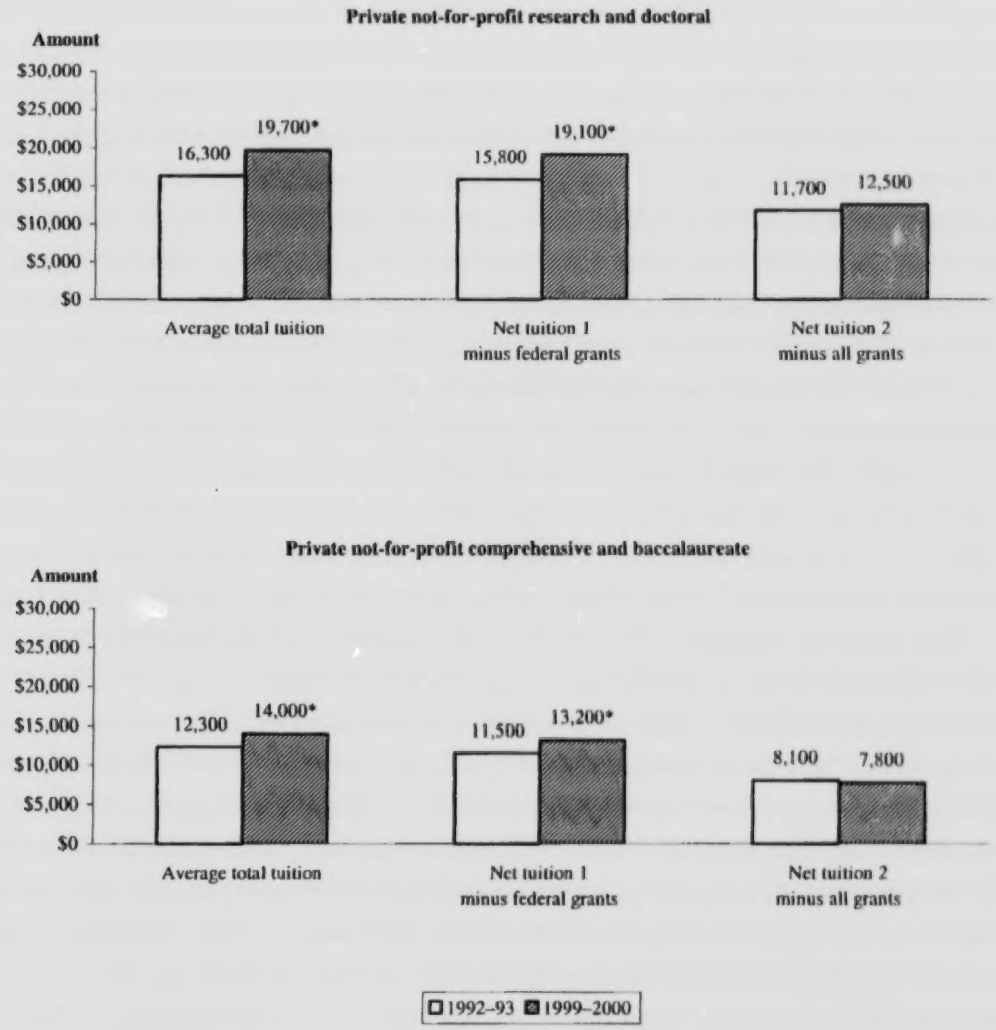
Figure E.—Among full-time, full-year undergraduates, attending private not-for-profit 4-year institutions, average total tuition and net tuition in 1992–93 and 1999–2000, in constant 1999 dollars



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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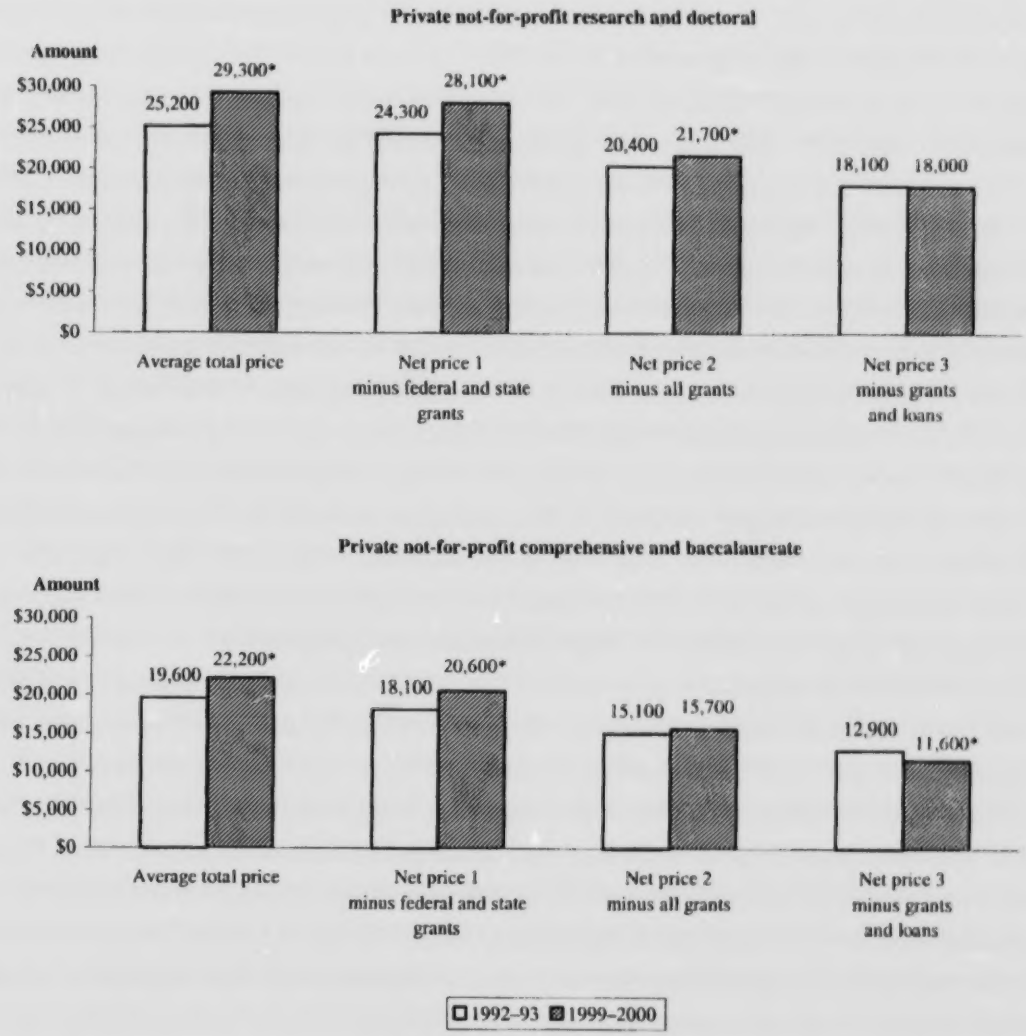
Figure F.—Among full-time, full-year undergraduates attending private not-for-profit 4-year institutions, average total price of attendance and various net prices in 1992–93 and 1999–2000, in constant 1999 dollars



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

$22,200. The net price after subtracting federal and state grants (net price 1) was also higher in 1999–2000 than in 1992–93. However, after all grants were subtracted from total price (net price 2), no difference was detected in average net price. When loans and grants were subtracted from total price (net price 3), undergraduates paid less out of pocket to attend private not-for-profit comprehensive and baccalaureate institutions in 1999–2000 ($11,600) than they did in 1992–93 ($12,900).

Price changes by student income level. Examining price changes by income level revealed that total price and net price 1 (minus federal and state grants) increased across all income levels for students attending private not-for-profit research and doctoral institutions. Total price and net price 1 increased for middle- and high-income students attending comprehensive and baccalaureate institutions. When all grants were subtracted (net price 2), both middle- and high-income students at private not-for-profit research and doctoral institutions still faced an increase in price, while only middle-income students faced such an increase at private not-for-profit comprehensive and baccalaureate institutions (figure G). In other words, at private not-for-profit comprehensive and baccalaureate institutions, neither low-income nor high-income students faced a higher attendance price after all grants were subtracted, while at research and doctoral institutions, this was the case only for low-income students. After loans and grants were subtracted from total price (net price 3), only high-income students attending research and doctoral institutions paid a higher price of attendance.

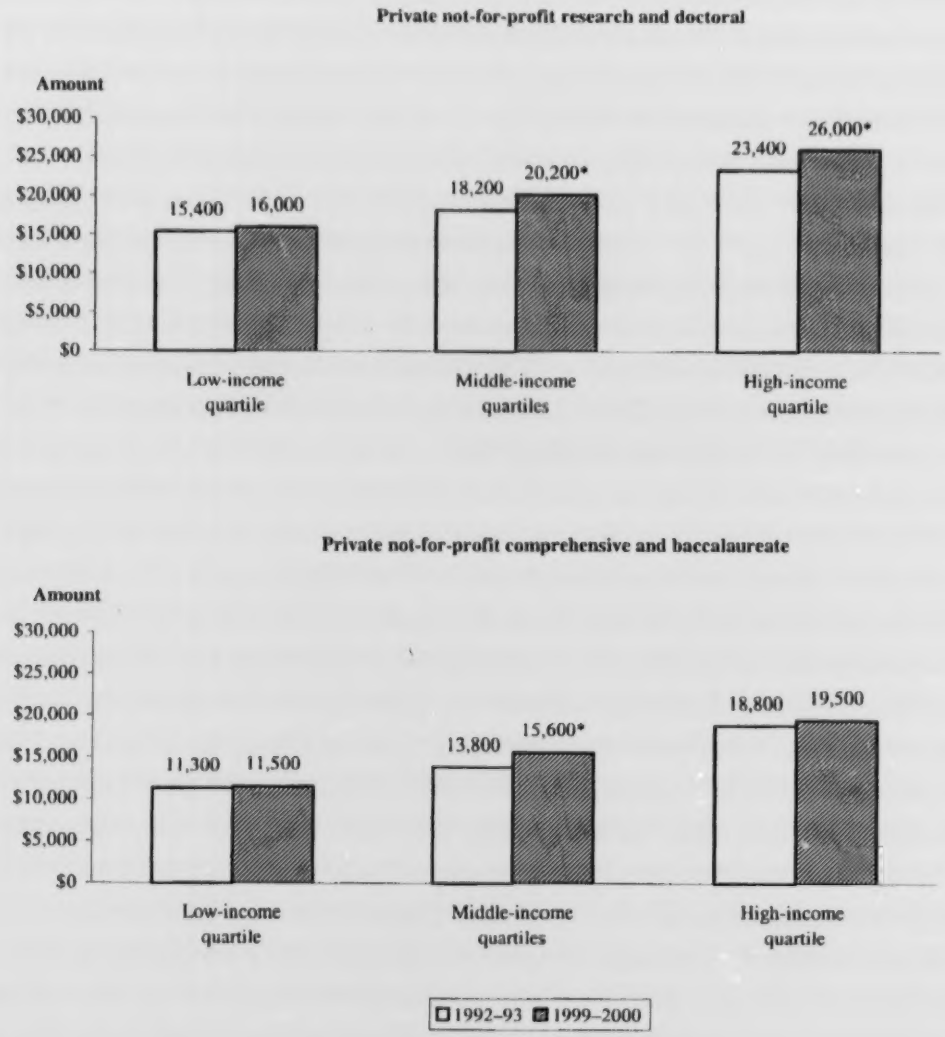
Public 2-Year Colleges

Tuition changes. Like colleges and universities in the 4-year sector, community colleges saw an increase in the average total tuition for full-time students between 1992–93 and 1999–2000, from about $1,400 to $1,600 after adjusting for inflation (figure H). However, unlike the pattern for 4-year institutions, when federal grants were subtracted from net tuition (net tuition 1), no change in tuition could be detected for community colleges. It appears, then, that federal grants increased enough to cover the increase in tuition between 1992–93 and 1999–2000 for full-time students at community colleges. When all grants were subtracted (net tuition 2), net tuition at community colleges was roughly $900 for both years.

Price changes. The average total price of attending community colleges for full-time students increased from about $8,000 to $9,100 between 1992–93 and 1999–2000. Increases in price were also observed after federal and state grants were subtracted (net price 1), as well as after all grants were subtracted (net price 2). However, no difference was detected between 1992–93 and 1999–2000 in the net price that community college students paid after loans and grants were subtracted from the total price (net price 3); full-time community college students paid roughly $7,000 in both 1992–93 and 1999–2000.

Price changes by student income level. When examining price changes by income levels, no change in net price was detected for low-income students for any net price measure. Middle-income students faced increases in net price 1 (minus federal and state grants) and net price 2 (minus all grants). No change was detected in net price 3 (minus all grants and loans) for either low- or middle-income students. Only high-income students attending community colleges paid a higher net price after loans and grants were subtracted from total price (net price 3).

Figure G.—Among full-time, full-year undergraduates attending private not-for-profit 4-year institutions, the net price after subtracting all grants (net price 2) in 1992–93 and 1999–2000, in constant 1999 dollars, by income quartiles

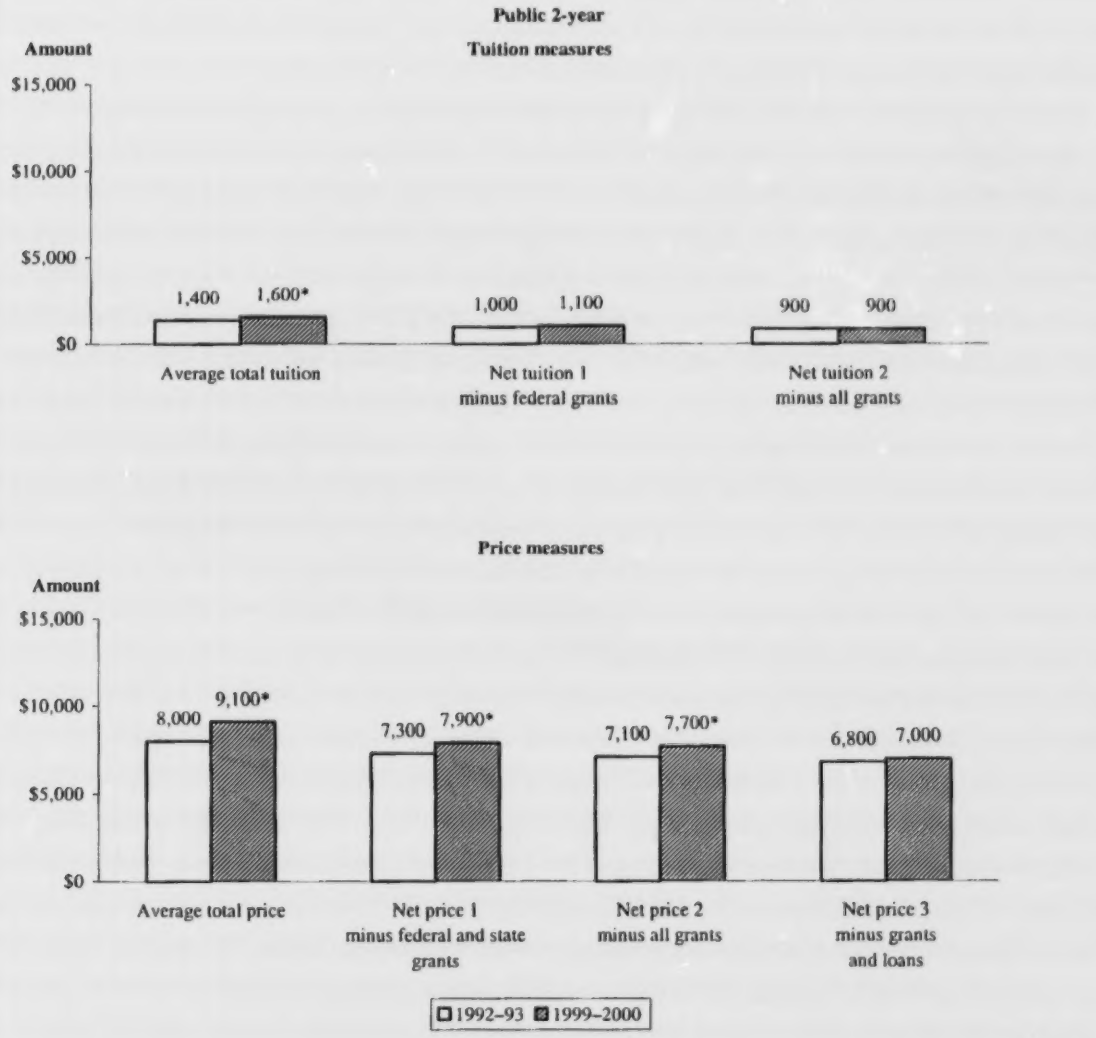


*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Figure H.—Among full-time, full-year undergraduates attending public 2-year colleges, average total tuition, net tuition, total price, and various net prices in 1992–93 and 1999–2000, in constant 1999 dollars



*1992–93 and 1999–2000 amounts significantly different ($p<0.05$).

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Conclusions

The results of this study indicate a measurable increase in the average total tuition and average total price of college attendance between 1992–93 and 1999–2000 (after adjusting for inflation) across all included institution types. However, when all grants were subtracted from tuition (net tuition 2), no change could be detected in the average amount that full-time undergraduates paid between 1992–93 and 1999–2000. The same was not found for the net price of attendance. As reflected in net price 2, when living expenses and other nontuition costs were taken into account, all grants combined were not sufficient to offset the increase in price for those attending public or private not-for-profit 4-year research and doctoral institutions or public 2-year colleges. However, not all students were affected equally by the changes in price. The increase in all grants (combined federal, state, institutional, and other grant aid) appeared to be sufficient to offset increases in total price for those undergraduates who could least afford to pay an increase—low-income students. This finding was consistent across all institution types included in the study.

After loans and grants were subtracted from total price (net price 3), with two exceptions, no increases in net price were observed for any income group attending any institution type. The only students who paid a higher net price in 1999–2000 than in 1992–93, once borrowing was taken into account, were undergraduates in the highest income quartile who attended either private not-for-profit 4-year research and doctoral institutions or public 2-year colleges. However, increased borrowing by low- and middle-income students at public 4-year institutions reduced the average net price they paid. These students paid less out of pocket in 1999–2000 than in 1992–93, but increased their loan debt.

Foreword

This report uses data from the 1992–93 and 1999–2000 National Postsecondary Student Aid Study (NPSAS) to compare changes in net price over time, after adjusting for inflation. Both surveys are part of a series of NPSAS studies conducted by the U.S. Department of Education. NPSAS surveys include nationally representative samples of students from all backgrounds and types of postsecondary institutions. The surveys provide information on student expenses, tuition, financial aid, and academic and demographic characteristics. The NPSAS:2000 survey was selected for this study because it contains the most recent data available. NPSAS:93 was chosen because it is the earliest survey with data that are strictly comparable to the data in NPSAS:2000.

The report describes changes in net tuition and net price between 1992–93 and 1999–2000 for five types of institutions: public 4-year research and doctoral institutions; public 4-year comprehensive and baccalaureate institutions; private not-for-profit 4-year research and doctoral institutions; private not-for-profit 4-year comprehensive and baccalaureate institutions; and public 2-year institutions.

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Introduction

Over the last two decades, college tuition in the United States has increased at a faster rate than both the Consumer Price Index (CPI) and median household income (U.S. General Accounting Office 1996, 1998; The College Board 2001a). According to the U.S. General Accounting Office (2000), in the early to mid-1990s, the percentage rate of growth in tuition costs at public institutions was higher than it was at private not-for-profit institutions (although the actual average dollar increase was lower). Between 1995–96 and 1999–2000, tuition and fees at private not-for-profit 4-year institutions continued to increase, while they stabilized at public 2- and 4-year institutions. However, the most recent data indicate that public colleges raised tuition an average of 7.7 percent (compared with 5.5 percent for private colleges) between 2001 and 2002 in response to the economic downturn (The College Board 2001a). In addition, room and board costs increased 6.6 percent at public colleges and 4.7 percent at private not-for-profit colleges. During the same period, the Consumer Price Index (CPI) grew less than 3 percent. To address this problem, a Blue Ribbon Financial Aid Panel, made up of leaders from business, colleges, and nonprofit foundations, was formed (Brownstein 2001). The panel is holding forums nationwide and will submit a report to Congress in December 2002.

While it has been well established that published tuition amounts, or tuition "sticker prices," have gone up considerably over the last two decades, most students do not pay the sticker price but get financial aid subsidies from the federal and state governments and from the colleges they attend. Students receive financial aid in the form of loans, grants, or both to help them meet their college costs. This report, therefore, is concerned with what students actually pay to attend college and how the price of attendance has changed over time. The report analyzes changes in the net price of college attendance, after various forms of financial aid and inflation have been taken into consideration. By examining changes in net price, it is possible to determine to what extent the contribution of federal, state, and institutional aid has offset increases in college sticker prices.

The goals of this study are 1) to analyze changes in net price from 1992–93 to 1999–2000 and 2) to examine, within each type of institution, changes in net prices over time for students with various levels of income and financial need.[1] The study is a follow-up to a recent

[1] Also, tables presented in appendix C show net tuition and price measures by gender and race/ethnicity. However, price differences among these student characteristics primarily result from differential changes in income or financial need.

congressionally mandated NCES report by Cunningham et al. (2001a and 2001b), which examined trends in college costs and how costs relate to prices for specific types of institutions (hereafter referred to as "The Cost Study"). It is important to note the difference between what is meant by college *cost* and college *price*. The National Commission on the Cost of Higher Education (1998) formally distinguished between cost, defined as the amount it takes an institution to educate a student (i.e., the production cost per student), and price, what a student and his or her family actually pay to attend. Cost is only indirectly related to price because institutions have multiple sources of revenue, among which tuition (price) is one source.

Changes in Financial Aid Between 1992–93 and 1999–2000

The two NPSAS surveys used to examine changes in net price represent periods before and after major changes in federal financial aid awards were implemented as a result of the 1992 Reauthorization of the Higher Education Act (HEA-92).[2] The most significant change that resulted from this reauthorization was that dependent students became eligible for unsubsidized student loans. Reauthorization also took place in 1998, but policy changes in aid eligibility were relatively minor. Because changes in financial aid awards (federal, state, and institutional) are reflected in net price changes between 1992–93 and 1999–2000, it is important to understand how the distribution of these types of aid changed during the period under study.

Federal Student Aid

Between 1992–93 and 1999–2000, the HEA-92 mandated several changes that affected the amounts and types of federal aid that students were eligible to receive. Modifications in the federal need analysis for calculating the expected family contribution (EFC)[3] led to a lower average EFC for most dependent students, particularly for those in middle- and high-income families. In particular, because home equity was no longer considered an asset, more middle- and high-income families qualified for need-based aid. In addition, parents with $50,000 or less

[2]Every 5 to 6 years, Congress revises the provisions in the Higher Education Act that establish federal financial aid programs (e.g., the Pell Grant program and the Stafford loan programs) and policies (e.g., federal need analysis methodology). This is commonly known as "Reauthorization." Generally, program and policy changes are implemented in the academic year immediately following Reauthorization. By 1999–2000, all changes prescribed by the 1992 Reauthorization had gone into effect. Reauthorization in 1998 resulted in more minor modifications to the Higher Education Act, such as reducing student loan interest rates. These changes would have been in effect in the 1999–2000 academic year.

[3]The EFC measures a student's or family's ability to pay for a postsecondary education. The EFC is calculated from information provided by students (and their parents, if they are dependent) on the Free Application for Federal Student Aid (FAFSA), which is required of all students applying for federal need-based aid. "Need analysis" is the process by which the EFC is calculated. Separate formulas for calculating the EFC are applied to dependent students, independent students without dependents, and independent students with dependents. Need analysis takes into account income, assets, family size, and the number of family members concurrently enrolled in college. Students may qualify for need-based aid if their EFC (i.e., ability to pay) is lower than their student budget.

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annual income or those who filed a short federal income tax form were not required to report assets. The minimum contribution from dependent students was eliminated, and the amount expected from student earnings was reduced. All of these changes resulted in more dependent students from middle- and high-income families qualifying for federally subsidized loans.

The HEA-92 also replaced the Supplemental Loans to Students (SLS) program with unsubsidized (Stafford) loan programs, allowing more dependent and independent students access to unsubsidized loans. HEA-92 also increased the borrowing limits for the Stafford loan program. The HEA-92 merged two need analysis formulas—one for Pell Grants and one for the other federal student financial aid programs—into one used for all the federal student financial aid programs. Finally, the HEA-92 resulted in two changes for independent students' EFC calculation: the elimination of the $1,200 minimum EFC requirement for single independent students with no children and the reclassification of married independent students with no children into the same category as single independent students with no children. This reclassification resulted in a higher average EFC for married independent students without children and a lower EFC for single independent students without children.

Federal Grant Aid

The federal Pell Grant program is the major federal grant aid program that offers aid to students and families with demonstrated financial need. The HEA-92 eliminated the limit on the Pell Grant award for eligible students (before 1992, the maximum Pell Grant could not exceed 60 percent of the student's total price of attendance). However, the change had little effect on Pell award amounts because only a very small percentage of students receive Pell amounts that exceed 60 percent of the total price of attendance. Other changes in Pell Grant program requirements resulted in single independent students without dependents receiving fewer Pell Grants.[4] Despite these changes, there was virtually no change in either the percentage of undergraduates receiving a grant or the amount received in the time period under study (The College Board 2000). Among the undergraduates included in this study—full-time, full-year students attending public 4-year, private not-for-profit 4-year, or public 2-year institutions—no change was detected in the percentage who received a federal grant between 1992–93 and 1999–2000 (28 percent and 29 percent, respectively), but a slight increase was observed in the average amount awarded (from $2,400 to $2,500) (tables 1-A and 1-B).

[4]Before the 1992 Reauthorization, the Pell Grant was awarded to students based on a Pell Grant index (an index that was separate and different from the EFC). The Pell Grant index was more favorable to independent students than other students. After the 1992 Reauthorization, the separate Pell Grant index was eliminated and Pell Grant eligibility was based on the EFC. As a result, independent students have been treated the same as all other students in the awarding of Pell Grants since the 1992–93 academic year.

Table 1-A.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received federal grant and federal loan aid, and among aid recipients, the average amount received, in constant 1999 dollars, by income quartile and dependency status

	Percent received federal grant		Average federal grant amount		Percent received federal loan		Average federal federal loan	
	1993	2000	1993	2000	1993	2000	1993	2000
Total	27.8	29.4	$2,392	$2,539	30.0	42.7	$3,887	$4,750
Income quartiles								
Bottom quartile	69.9	71.6	2,641	2,785	47.5	48.2	3,806	5,094
Middle quartiles	19.7	18.9	1,864	2,021	31.6	45.3	3,928	4,626
Top quartile	1.7	0.9	1,674	1,640	14.7	30.9	4,020	4,487
Dependency status								
Dependent	19.9	22.6	2,236	2,430	26.3	42.1	3,535	4,189
Independent	52.5	50.3	2,562	2,690	41.7	44.6	4,572	6,378

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Federal Loans

Reflecting in part the changes made by HEA-92 in loan eligibility and the increased loan limits, both the percentage of undergraduates who borrowed and the amounts borrowed increased markedly over the time frame studied (tables 1-A and 1-B). The percentage of full-time undergraduates who relied on federal student loans to help pay for their college education increased from 30 to 43 percent overall. Borrowing increased from 31 to 47 percent at public 4-year institutions and from 44 to 58 percent at private not-for-profit 4-year institutions. After adjusting for inflation, the average amount borrowed increased from $3,900 to $4,800 overall. No change in the percentage borrowing was detected for students in the lowest income quartile—roughly half borrowed in both survey years—but the likelihood of borrowing increased for both middle-income undergraduates (from 32 to 45 percent) and high-income undergraduates (from 15 to 31 percent). The average amount borrowed increased for undergraduates in each income quartile.

Table 1-B.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received federal grant and federal loan aid, and among aid recipients, the average amount received, in constant 1999 dollars, by income quartile, dependency status, and institution type

	Percent received federal grant		Average federal grant amount		Percent received federal loan		Average federal federal loan	
	1993	2000	1993	2000	1993	2000	1993	2000
Public 4-year								
Total	27.2	28.9	$2,342	$2,482	30.8	47.4	$3,695	$4,737
Income quartiles								
Bottom quartile	69.4	72.4	2,583	2,736	52.4	58.3	3,705	5,150
Middle quartiles	18.7	17.8	1,783	1,890	32.9	49.9	3,681	4,546
Top quartile	1.6	0.6	1,881	(#)	10.3	29.8	3,710	4,430
Dependency status								
Dependent	20.1	22.0	2,115	2,350	25.5	44.3	3,246	4,069
Independent	53.0	53.5	2,644	2,676	49.7	58.4	4,507	6,536
Private not-for-profit 4-year								
Total	27.0	27.5	$2,772	$2,723	44.0	58.2	$4,385	$5,135
Income quartiles								
Bottom quartile	73.4	76.8	3,077	3,097	65.1	62.6	4,285	5,582
Middle quartiles	23.5	18.8	2,143	1,971	55.8	65.3	4,492	5,086
Top quartile	1.5	1.2	1,859	(#)	23.9	43.5	4,336	4,731
Dependency status								
Dependent	21.3	23.0	2,692	2,662	41.3	59.1	3,991	4,625
Independent	52.3	47.6	2,911	2,856	56.7	54.4	5,695	7,623
Public 2-year								
Total	30.3	32.4	$2,098	$2,481	11.4	16.2	$2,851	$3,361
Income quartiles								
Bottom quartile	67.6	66.0	2,298	2,595	19.0	18.2	2,782	3,431
Middle quartiles	18.6	21.3	1,741	2,278	9.5	17.1	2,984	3,386
Top quartile	2.9	1.1	(#)	(#)	5.9	9.9	(#)	(#)
Dependency status								
Dependent	17.4	23.5	1,782	2,314	5.3	12.9	2,188	2,528
Independent	51.9	47.7	2,241	2,624	21.7	22.0	3,092	4,209

#Too small to report.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

State Financial Aid

States may use either a student's and his or her family's ability to pay (need-based) or a student's achievement (merit-based) as eligibility criteria for state aid. A shift in state financial aid programs from need- to merit-based aid occurred in the 1990s, when Florida, Georgia, Kentucky, Louisiana, Michigan, Missouri, Nevada, New Mexico, and South Carolina implemented merit-based financial aid programs (Salingo 2001). As a result of these new programs, the cumulative percentage increase in state merit-based aid awards more than tripled between 1992 and 1998, while there was only a slight percentage increase in state need-based aid (The College Board 2001b, figure 9).

Among the students included in this study, the percentage of undergraduates receiving state grants rose from 17 to 22 percent (tables 2-A and 2-B), and the amount they received increased slightly from $1,800 to $2,000. While higher percentages of middle-income students (15 to 22 percent) and high-income students (4 to 7 percent) received state aid, no change was detected for low-income students, among whom 33 percent received state aid in 1992–93 and 36 percent did so in 1999–2000.

Table 2-A.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received state grant aid, and among state grant aid recipients, the average amount received, in constant 1999 dollars, by income quartile and dependency status

	Percent received state grant		Average state grant amount	
	1993	2000	1993	2000
Total	16.7	22.4	$1,768	$1,975
Income quartiles				
Bottom quartile	32.7	36.4	1,865	2,052
Middle quartiles	15.4	21.7	1,662	1,948
Top quartile	4.4	7.4	1,716	1,695
Dependency status				
Dependent	14.4	21.2	1,887	2,089
Independent	24.0	26.1	1,545	1,690

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Table 2-B.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received state grant aid, and among state grant aid recipients, the average amount received, in constant 1999 dollars, by income quartile, dependency status, and institution type

	Percent received state grant		Average state grant amount	
	1993	2000	1993	2000
		Public 4-year		
Total	15.4	21.4	$1,590	$1,945
Income quartiles				
Bottom quartile	32.0	36.6	1,646	2,076
Middle quartiles	13.4	19.6	1,481	1,836
Top quartile	3.6	7.6	1,857	1,762
Dependency status				
Dependent	12.8	20.4	1,669	2,015
Independent	24.5	25.3	1,449	1,744
		Private not-for-profit 4-year		
Total	22.1	26.1	$2,386	$2,613
Income quartiles				
Bottom quartile	40.7	40.8	2,756	2,773
Middle quartiles	27.4	30.3	2,192	2,635
Top quartile	6.5	7.8	1,665	1,796
Dependency status				
Dependent	20.1	25.4	2,391	2,653
Independent	31.5	29.5	2,367	2,457
		Public 2-year		
Total	13.3	20.6	$1,036	$1,183
Income quartiles				
Bottom quartile	26.3	32.4	1,077	1,286
Middle quartiles	9.9	17.8	964	1,062
Top quartile	1.6	6.3	(#)	(#)
Dependency status				
Dependent	10.0	17.8	1,148	1,210
Independent	19.0	25.4	937	1,150

#Too small to report.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Institutional Grant Aid

Colleges and universities typically offer institutional grant aid to incoming students based on their financial need, academic achievement, or both. Changes in how institutional grant aid is awarded with respect to need or merit have important implications for understanding how college affordability differs across different groups of students over time.

Although tuition levels have continued to increase in recent years among many institutions in the private not-for-profit sector, increases in institutional aid may have reduced the impact of this trend, at least for some students (Lapovsky 2001; Redd 2000). Similarly, in the public sector, both institutional and other private grant aid grew at a faster rate than did either federal or state grant support between 1989–90 and 1999–2000 (American Association of State Colleges and Universities 2001).

From the institutional standpoint, there are important reasons for offering additional grant aid to students: to assist those with financial need, to attract meritorious students, to achieve diversity among the student body, or to meet institutional enrollment goals (Lee and Clery 1998; Redd 2000). As a result, students attending the same institution may be charged very different prices (McPherson and Schapiro 2001).

As shown in table 3-A, among all undergraduates included in this study, increases in both the percentage and amounts of institutional grants were found: 23 percent received an average of $4,200 in 1992–93, and 31 percent received an average of $4,700 in 1999–2000. As shown in table 3-B, the percentage of undergraduates who received institutional grant aid at private not-for-profit 4-year institutions increased from 47 to 59 percent, and the average amount received rose from $6,100 to $7,300. The percentage receiving merit-based institutional grant aid in these same institutions increased from 18 percent to 31 percent, and the likelihood of receiving such grants increased across all income levels: from 17 to 25 percent for the lowest income quartile, from 22 to 34 percent for the middle-income quartiles, and from 16 to 31 percent for the highest income quartile. The amount of merit aid, however, increased measurably only for high-income students (from $4,900 to $6,200), while no such change was detected for students in the lower income quartiles.

Research on Net Price

Increases in financial aid have helped families meet the growing price of a postsecondary education. McPherson and Schapiro (2001) found that after adjusting for inflation, increases in net tuition (defined as tuition minus federal, state, and institutional grants and federal loan subsidies) were smaller than increases in sticker price. However, researchers have also argued

Table 3-A.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received institutional grant aid and institutional merit aid, and among institutional aid recipients, the average amount received, in constant 1999 dollars, by income quartile and dependency status

	Percent received institutional grant		Average institutional grant amount		Percent received institutional merit grant		Average institutional merit grant amount	
	1993	2000	1993	2000	1993	2000	1993	2000
Total	22.8	30.6	$4,237	$4,741	9.9	14.4	$3,504	$4,072
Income quartiles								
Bottom quartile	27.6	34.0	3,583	3,631	9.3	11.8	2,747	3,235
Middle quartiles	23.5	30.5	4,716	5,181	10.6	15.1	3,801	4,041
Top quartile	19.0	26.6	4,393	5,390	9.9	16.3	3,817	4,842
Dependency status								
Dependent	24.7	33.3	4,588	5,230	11.5	16.7	3,640	4,276
Independent	17.4	22.2	2,716	2,486	5.2	7.4	2,586	2,660

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

that funding for grant aid has not increased enough to counterbalance the real growth in sticker prices over time (McPherson and Schapiro 2001; The College Board 2001b). The National Commission on the Cost of Higher Education (1998) reported that while net price did not increase as substantially as did sticker price, it nevertheless grew at a faster rate than did median income and disposable per capita income during the late 1980s and early 1990s at all three types of colleges and universities studied (public 4-year, private not-for-profit 4-year, and public 2-year institutions). These results depend, however, on how net price is being defined. While increases in grant aid may not have matched the average increases in total price, Berkner (2000) reported that student borrowing increased by about the same amount as did tuition between 1989–90 and 1995–96. And for the period analyzed in the current study, borrowing increased for full-time students from roughly 30 percent to just over 40 percent (Berkner 2000; Berkner et al. 2002).

Not all students have been affected equally by net price changes. Previous studies have found that some students, particularly those from low-income families, may not have benefited over time (Cunningham and O'Brien 1998), while others, particularly high-income students receiving institutional aid, have done so (Redd 2000). Cunningham and O'Brien found that while low-income students continued to pay the lowest net prices, they also experienced the highest

Table 3-B.—Percentage of full-time, full-year undergraduates in 1992–93 and in 1999–2000 attending public 4-year, private not-for-profit 4-year, and public 2-year institutions who received institutional grant aid and institutional merit aid, and among institutional aid recipients, the average amount received, in constant 1999 dollars, by income quartile and dependency status, by institution type

	Percent received institutional grant		Average institutional grant amount		Percent received institutional merit grant		Average institutional merit grant amount	
	1993	2000	1993	2000	1993	2000	1993	2000
Public 4-year								
Total	16.3	23.4	$2,290	$2,747	8.1	10.9	$2,741	$2,895
Income quartiles								
Bottom quartile	21.9	29.2	1,770	2,392	7.8	9.5	2,175	2,709
Middle quartiles	16.6	23.2	2,628	2,829	8.8	11.7	3,159	2,936
Top quartile	11.0	17.1	2,529	3,228	7.1	11.1	2,589	2,994
Dependency status								
Dependent	16.6	23.9	2,468	2,899	8.9	12.0	2,899	3,025
Independent	15.4	21.4	1,624	2,143	5.2	6.9	1,800	2,094
Private not-for-profit 4-year								
Total	47.3	58.9	$6,119	$7,284	17.8	30.8	$4,716	$5,278
Income quartiles								
Bottom quartile	54.5	56.9	5,832	6,717	16.5	25.0	3,766	4,325
Middle quartiles	60.4	65.0	6,659	7,676	22.4	33.6	5,090	5,111
Top quartile	33.9	51.0	5,552	7,009	15.6	31.2	4,902	6,183
Dependency status								
Dependent	49.1	63.7	6,429	7,683	19.3	33.5	4,853	5,512
Independent	39.6	37.6	4,413	4,253	11.7	18.8	3,694	3,406
Public 2-year								
Total	9.5	15.6	$1,185	$866	5.0	4.5	$1,338	$1,347
Income quartiles								
Bottom quartile	13.4	24.9	1,020	741	5.6	5.5	(#)	(#)
Middle quartiles	7.6	11.7	1,448	979	4.8	4.0	(#)	1,696
Top quartile	8.6	9.6	(#)	(#)	5.1	4.1	(#)	(#)
Dependency status								
Dependent	10.9	15.9	1,368	917	7.2	5.9	1,331	1,316
Independent	7.5	15.0	737	771	1.4	2.1	(#)	(#)

#Too small to report.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

percentage increases in net price from 1989–90 to 1995–96 at most of the institutions included in their study.

In light of these previous studies, this study was designed to analyze changes in net price within specific institution types using the most recent NPSAS data available. The net price measures take into account changes in grant aid as well as changes in borrowing. The years analyzed reflect periods before and after major changes in federal financial aid policy. Finally, the study analyzes different groups of students with respect to income and financial need.

Data and Definitions of Key Variables

Data from the 1992–93 and 1999–2000 administrations of the National Postsecondary Student Aid Study (NPSAS) were used in this analysis to compare changes in net price over time after adjusting for inflation. Conducted by the U.S. Department of Education, the NPSAS surveys include nationally representative samples of students from all backgrounds and types of postsecondary institutions. These surveys provide information about student expenses, tuition, financial aid, and academic and demographic characteristics. The NPSAS:2000 survey contains the most recent data available, and NPSAS:93 was chosen because it is the earliest survey with data that are strictly comparable to the data in NPSAS:2000. In NPSAS:90, for example, the nontuition student expenses were derived from student-reported data rather than from the institution-reported student budgets that were used for need analysis. Consequently, the price of attendance, net price, and need variables in NPSAS:90 are not comparable with those in the later NPSAS surveys.

Analysis Sample

Consistent with The Cost Study, this study analyzed changes in net prices separately for public and private not-for-profit 4-year colleges and universities. Public institutions generally have substantially lower tuition than institutions in the private sector because they receive direct appropriations from the states to support programs and meet operating costs. Within the public and private sectors, two aggregate Carnegie classifications—research and doctoral institutions, and comprehensive and baccalaureate institutions—were analyzed separately. However, tuition at any particular institution type may vary considerably from the average for that institution type. In addition to trends in net price for 4-year colleges and universities, this study analyzed such trends for public 2-year colleges. The study excluded students attending for-profit institutions and other less-than-4-year institutions, as well as those attending more than one institution. About 14 percent of undergraduates in NPSAS:93 and 13 percent in NPSAS:2000 were excluded based on these criteria.[5] The exclusions were made to maintain consistency with The Cost Study and because the sample sizes for the excluded categories in the NPSAS surveys are relatively small and would have yielded few meaningful comparisons.

[5] 1992–93 and 1999–2000 National Postsecondary Student Aid Study (NPSAS:93 and NPSAS:2000), Undergraduate Data Analysis Systems.

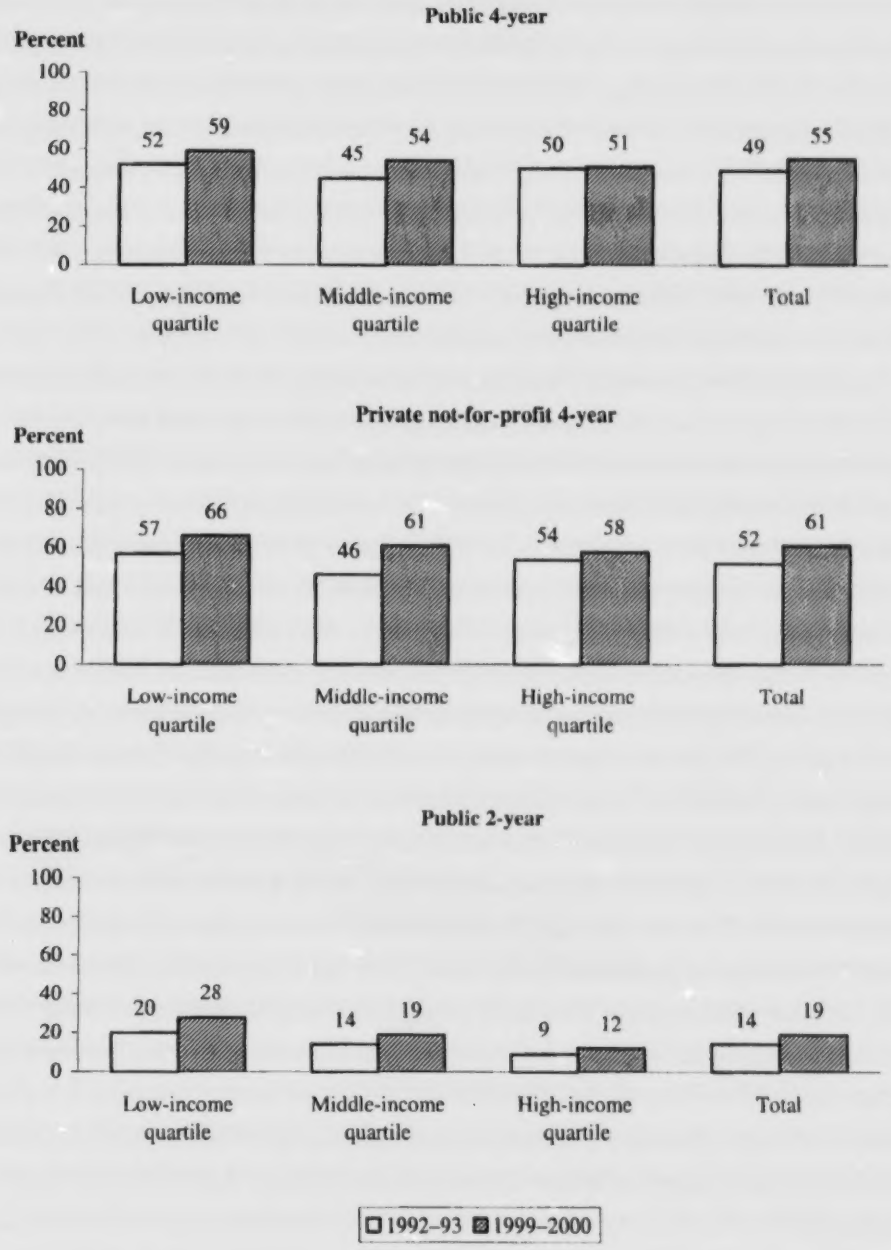
To ensure that the amount of tuition and fees students paid and the amount of financial aid they were awarded were comparable, only full-time students attending for a full academic year (i.e., at least 9 months) were included in each year's sample. Among undergraduates in 4-year institutions, roughly 50 to 60 percent attended full time for a full year, depending on the institution sector and NPSAS year (figure 1). However, because public 2-year colleges accommodate a wide range of students with differing educational goals and daily schedules, most attend on a part-time basis. Therefore, a relatively small percentage of public 2-year students were included in this analysis (14 percent in NPSAS:93 and 19 percent in NPSAS:2000 attended full time for a full year). While part-time students make up a large percentage of the undergraduate student population, particularly in public 2-year colleges, the price of attendance for part-time and/or part-year students varies by the number of courses taken and the number of months enrolled, which cannot be controlled for in the analysis. For ease of presentation, full-time, full-year students are referred to as "full-time students" throughout the report.

The restricted analysis sample may have certain inevitable biases. A student's choice of college and whether to attend full time or part time may be based on his or her ability to pay the price of attendance. A student's tolerance for debt, for example, may determine whether that student attends part time and works while enrolled or attends full time and borrows. Also, changes in financial aid eligibility over the period studied may have influenced students' decisions. While the study does not directly address changes in patterns of decision making between 1992–93 and 1999–2000, figure 1 shows that a greater percentage of undergraduates attended full time for a full year in 1999–2000 than in 1992–93 across all selected institution types. For both public and private not-for-profit 4-year institutions, the increase in full-time attendance was found for students in the low- and middle-income quartiles, but not for those in the high-income quartile. Among those attending public 2-year institutions, full-time attendance increased across all income quartiles. These findings suggest that the increase in the price of attendance was not associated with a corresponding decline in full-time attendance. On the contrary, a greater percentage of low- and middle-income students attended full time in 1999–2000 than in 1992–93. It is possible that the increase in both borrowing (particularly by middle-income students) and the amounts borrowed allowed a greater percentage of these students to attend on a full-time basis.

In summary, the analysis sample includes full-time, full-year students attending one of the following institution types:

- Public 4-year research and doctoral institutions;
- Public 4-year comprehensive and baccalaureate institutions;
- Private not-for-profit 4-year research and doctoral institutions;

Figure 1.—Percentage of undergraduates enrolled in college full time for a full year in 1992–93 and 1999–2000, by income quartiles and institution type



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

- Private not-for-profit 4-year comprehensive and baccalaureate institutions; or
- Public 2-year institutions.

Adjustments for Inflation

In this report, all comparisons between 1992–93 and 1999–2000 on tuition, net tuition, total price of attendance, and net price of attendance were made using constant 1999 dollars based on the Consumer Price Index (CPI-U) table provided by the U.S. Department of Labor, Bureau of Labor Statistics. The average CPI was 140.3 in 1992 (for the 1992–93 academic year) and 166.6 in 1999 (for the 1999–2000 academic year). The multiplier used to convert 1992 into 1999 dollars was 1.188. Standard errors were adjusted for inflation in the same manner.

Measures of Net Tuition, Net Price, and Other Key Variables

The following section describes the key variables that were used in the report. In particular, it describes how and why particular net tuition and net price measures were constructed and how financial need levels were defined.

Net Tuition

Tuition, including any required fees,[6] is the basic price that colleges charge all students for instruction and related services. These charges may be partially or completely offset by grants from the institution, states, the federal government, or other sources. Two measures of *net tuition* are examined in this analysis:

net tuition 1: total tuition minus federal grants. This measure shows how much federal grant programs (primarily Pell) alone would reduce tuition if no institutional or state grants had been available.[7] The federal Pell and SEOG Grants target the lowest income students. For example, while about one-quarter of all undergraduates received a federal grant (averaging $2,100) in 1999–2000, 60 percent of low-income dependent students received one (Berkner et al. 2002). Thus, changes in federal grant aid award would primarily affect the net tuition paid by low-income students.

net tuition 2: total tuition minus all grants. This measure shows the amount of tuition after the combination of all grants (from federal, state, institutional, and other sources) has been

[6]Use of the term "tuition" as opposed to "fees" is arbitrary. The terms can be interchangeable to a large extent. Some institutions only charge tuition, some only fees, and some both.

[7]Institutional and state grants are the major types of grant aid other than federal aid, but there are also other types of grants and scholarships that students receive.

subtracted. Grants from sources other than the federal or state government or the institution include employer tuition reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations. Net tuition 2 will show whether, and by how much, tuition increases have been offset by increases in total grant aid.

Net Price of Attendance

Tuition is only part of the total price that students and their families pay for a college education. In addition to tuition, the total price of attendance includes books and supplies, rent, food, and other living expenses. These nontuition expenses may vary considerably among students attending the same institution depending on their living arrangements. In fact, at some postsecondary institutions, living expenses are higher than the price of tuition. Only about one-fourth of all 4-year college undergraduates live on campus and pay room and board. Typically, nontuition expenses represent about two-thirds of the total price at public 4-year institutions and somewhat less than half of the total price at private not-for-profit 4-year institutions.

In student budgets, the total price of attendance is estimated by colleges based on average tuition and living expenses for different types of students. Student budgets—which include primarily tuition and fees, room and board, transportation, books and supplies, and personal expenses—are intended to inform students and their families of the average amount that they can expect to pay. They are also used as the basic total price in determining a student's eligibility for need-based financial aid. The amount of room and board expenses varies depending on the type of living arrangement: on-campus, off-campus, or with parents or relatives. The price of living in on- or off-campus housing will be higher than that of living at home.

The net price of attendance is based on the student budget minus various types and combinations of financial aid. This study examined net price at various stages, following typical need-based financial aid packaging models. Such models generally start with the outside funds first and use institutional funds last and only when student need has not been met. If the student is eligible for financial aid, an aid package will start with a federal Pell Grant and a state grant. After that, the amount and type of aid are largely discretionary. Institutional aid is offered as grants or loans (or both), either need- or merit-based, or a combination of both.

Although work-study income is technically considered financial aid because work-study wages are heavily subsidized by the federal government, in practice earnings from work-study are no different from the earnings of students in any other job held while enrolled. If one were to include work-study, which affects a relatively small group of students,[8] all types of student

[8]About 5 percent of the 1999–2000 undergraduates received work-study (Berkner et al. 2002).

employment would have to be included in the analysis. Because of the wide range of work strategies that students use to help offset their educational expenses, work-study is not considered in this analysis. Taking into account all forms of financial aid except work-study suggests the following net price measures:

net price 1: total price minus federal and state grants.[9] This is the net price before the institution commits its own funds and the student commits to a student loan. It shows what the student and family would have to pay without any institutional aid and without borrowing.

net price 2: total price minus all grants. This is the net price before the student has to commit to a student loan. It shows what must be paid out of pocket without borrowing.

net price 3: total price minus all grants and loans (both subsidized and unsubsidized).[10] This is the net price that must be paid out of pocket.

Financial Need

Though financial need and income are highly related, they are not necessarily equivalent. Under federal need analysis methodology, low-income students are not necessarily considered students with high need, nor are middle- or high-income students always considered those with lesser need. Need is largely dependent on the student budget (which includes living expenses as well as tuition and fees). Institutions usually determine a student's need by subtracting the student's EFC from the total student budget.[11] Consider, for example, the case of a dependent student from a middle-income family who is enrolled at a public 2-year institution and commutes from home. Assuming that the total price of attendance (tuition plus living expenses) is lower than the EFC, this student would not have any financial need. However, if that same student were to enroll at a private not-for-profit 4-year institution and live on campus, the total price of attendance may then be high enough to exceed the family's EFC. In this case, even though the family's EFC was the same in both circumstances, this student would be considered to be financially needy at one institution, but not at the other, due to differences in the total price of attendance at each institution.

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[9]Net price 1 is not meant to be analogous to net tuition 1. Net tuition 1 (tuition minus federal grants) is a measure typically used to show the purchasing power of federal grant aid, primarily Pell Grants. Net price 1 (price minus federal and state grants) is the amount institutions typically take into account in determining whether and how much institutional aid will be awarded.

[10]Does not include federal loans taken out by undergraduates' parents, which are available only to dependent students' parents, among whom about 6 percent took out such loans (Berkner 2002).

[11]Under federal need analysis methodology, the EFC is calculated using parent and student income, assets, and family size, among other factors. In some cases, institutions will use a separate formula when calculating eligibility for additional institutionally funded financial support.

Need is defined in this report using the standard financial aid definition: the student budget minus the EFC.[12] This definition indicates the amount of the student budget that should be met by financial aid if the funds are available. Those in the lowest need quartile are considered students with limited need, or in the case of public institutions, those with no remaining need. The financial need quartiles that were used in this study for each institution type were based on students who were enrolled full time for a full year within that institution type (see the glossary in appendix A for detailed definition).

[12]This calculation results in negative need for some students. Need was recoded to zero for these students.

Changes in Net Tuition

Consistent with earlier reports, this study showed an increase in average total tuition between 1992–93 and 1999–2000 across all institution types examined after adjusting for inflation. In addition, when federal grants were subtracted from total tuition (net tuition 1), the average net tuition also increased over time at all types of institutions except public 2-year colleges. However, when *all* grants were subtracted from tuition (net tuition 2), no changes in net tuition were detected for any institution type. This suggests that total grant aid increased enough to help students and their families meet the average increase in total tuition that occurred between 1992–93 and 1999–2000. The following sections describe changes in tuition for specific types of colleges and universities.

Public 4-Year Research and Doctoral Institutions

The average total tuition charged to undergraduate students enrolled full time in public 4-year research and doctoral institutions increased from about $4,000 to $4,800 between 1992–93 and 1999–2000 (table 4-A). Similarly, net tuition 1 (minus federal grants) increased from $3,500 to $4,200. However, no difference was detected in net tuition 2 (minus all grants) over the same period. This finding suggests that, while total tuition increased between 1992–93 and 1999–2000, no change in college affordability, in terms of average tuition and fees, was detected for full-time students in public 4-year research and doctoral institutions when all grant aid was considered.

Net Tuition Changes by Income and Financial Need

Table 4-A also shows the average net tuition charged to full-time students across income and need groups for those enrolled in public 4-year research and doctoral institutions. While net tuition 1 (minus federal grants) increased for every income group between 1992–93 and 1999–2000, middle-income students experienced a larger increase than did low-income students. After federal grants were considered, middle-income students faced a greater financial burden, in terms of increasing tuition over time, compared with their low-income counterparts. This finding might be expected since federal grants are awarded primarily to low-income students.

While no increase in net tuition 2 (minus all grants) was detected overall, when individual income groups were examined separately, net tuition 2 increased for both middle- and high-

Table 4-A.—Among all full-time, full-year undergraduates attending public 4-year research and doctoral institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Public research and doctoral					
Total	$3,997	$4,772	$3,544	$4,208	$2,973	$3,193
Income quartiles						
Bottom quartile	3,575	4,251	2,122	2,507	1,498	1,574
Middle quartiles	3,734	4,742	3,490	4,485	2,809	3,331
High quartile	4,441	5,284	4,413	5,273	3,982	4,408
Financial need quartiles						
High need (high quartile)	5,107	5,861	3,745	4,244	2,831	2,865
Moderate need (middle quartiles)	3,452	4,322	3,126	3,954	2,595	2,990
No need (bottom quartile)	3,630	4,551	3,627	4,543	3,220	3,742
Dependency status						
Dependent	4,104	4,933	3,812	4,522	3,211	3,404
Independent	3,473	4,053	2,258	2,805	1,824	2,249

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

income students, but not for low-income students. Therefore, the increase in all grants combined appeared to offset the increases in total tuition for low-income students, while students in the middle- and high-income quartiles had to rely on additional sources, such as student loans, to compensate for the tuition increase.

In addition to considering income, this study examined changes in college tuition between groups over time for students with different levels of financial need. As revealed in table 4-A, students with no need or moderate need faced increases in net tuition 1 (minus federal grants) and net tuition 2 (minus all grants), but no differences were detected for those with the highest need.

In summary, for full-time students attending public research and doctoral institutions, the increase in federal grants alone was not sufficient for students in any income group to completely

offset the increase in tuition. All income groups experienced increases in average net tuition after subtracting federal grant aid. Moreover, middle-income students faced larger increases than did low-income students. However, federal grants offset increases in tuition for students in the highest need quartile (i.e., no increase in net tuition 1 was detected for the high-need group). When all grants were taken into consideration, the combined sources of federal, state, and institutional grants were still not enough to offset the increases in net tuition for middle- and high-income students, nor for those with no need or moderate financial need. All grants combined, however, did offset the increases in tuition faced by low-income and high-need students.

Public 4-Year Comprehensive and Baccalaureate Institutions

Between 1992–93 and 1999–2000, full-time undergraduates enrolled at public 4-year comprehensive and baccalaureate institutions faced increases in average total tuition and net tuition 1 (minus federal grants). Table 4-B shows that the average total tuition was $2,900 in 1992–93 and $3,400 in 1999–2000. Net tuition 1 increased from about $2,300 to $2,700, but no increase was detected for net tuition 2 (minus all grants). As with students in public research and doctoral institutions, increases in combined federal, state, and institutional grants overall appeared to offset the increases in tuition between 1992–93 and 1999–2000 for those enrolled at public comprehensive and baccalaureate institutions.

Net Tuition Changes by Income and Financial Need

Table 4-B also presents changes in average net tuition amounts by income and financial need quartiles between 1992–93 and 1999–2000. Despite the overall increase in net tuition 1 (minus federal grants), when examining income quartiles separately, an increase in net tuition 1 was detected only for students in the middle-income quartiles, but not for those in either the low-income or high-income quartile.[13] For net tuition 2 (minus all grants), no increase was detected for students in any income quartile.

With respect to financial need, no difference in average net tuition was detected for those with the highest financial need when federal grants were subtracted (net tuition 1), but this was not the case for those with no need or moderate need: these two groups faced increases in net tuition 1. However, for net tuition 2 (minus all grants), no increase was detected for students in any need group.

[13]While there appears to be an increase in net tuition 1 for high-income students, the difference was not statistically significant.

Table 4-B.—Among all full-time, full-year undergraduates attending public 4-year comprehensive and baccalaureate institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Public comprehensive and baccalaureate					
Total	$2,896	$3,362	$2,275	$2,669	$1,947	$2,076
Income quartiles						
Bottom quartile	2,719	3,110	1,202	1,414	914	970
Middle quartiles	2,861	3,370	2,527	3,014	2,105	2,336
High quartile	3,261	3,724	3,234	3,720	3,007	3,112
Financial need quartiles						
High need (high quartile)	3,276	3,934	1,762	2,155	1,394	1,477
Moderate need (middle quartiles)	2,721	3,097	2,153	2,585	1,776	2,004
No need (bottom quartile)	2,884	3,308	2,878	3,307	2,649	2,775
Dependency status						
Dependent	3,017	3,470	2,565	2,978	2,222	2,318
Independent	2,536	3,042	1,409	1,751	1,135	1,359

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

In summary, when examining the changes in net tuition for full-time students with different income and need levels who attended public 4-year comprehensive and baccalaureate institutions, it was apparent that the increase in federal grants offset the increase in average tuition for low-income and high-need students (i.e., no difference in net tuition 1 was detected for these groups). Combined federal, state, and institutional grants provided enough financial aid to students of all income and need levels to meet the increase in average total tuition (i.e., no difference was detected in net tuition 2 for any income or need group).

Private Not-for-Profit 4-Year Research and Doctoral Institutions

Among full-time undergraduates enrolled at private not-for-profit 4-year research and doctoral institutions, average total tuition and net tuition 1 (minus federal grants) rose between 1992–93 and 1999–2000. As shown in table 5-A, the average total tuition increased from about

$16,300 to $19,700, and net tuition 1 increased from about $15,800 to $19,100. No statistical change in net tuition 2 (minus all grants), however, could be detected over the same period ($11,700 and $12,500, respectively). Therefore, for private not-for-profit research and doctoral colleges and universities, the overall increase in total grant aid was sufficient to help students meet the increase in total tuition between 1992–93 and 1999–2000.

Table 5-A.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year research and doctoral institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit research and doctoral					
Total	$16,279	$19,689	$15,817	$19,071	$11,660	$12,519
Income quartiles						
Bottom quartile	15,482	18,283	13,463	15,965	7,059	7,233
Middle quartiles	15,894	19,499	15,559	19,168	9,436	11,016
High quartile	16,777	20,585	16,766	20,547	14,566	16,653
Financial need quartiles						
High need (high quartile)	18,387	23,403	17,021	21,740	9,057	9,707
Moderate need (middle quartiles)	15,961	19,151	15,653	18,748	11,703	12,664
Low need (bottom quartile)	14,656	17,312	14,646	17,310	13,008	15,095
Dependency status						
Dependent	16,566	20,262	16,207	19,702	11,982	12,761
Independent	14,013	14,693	12,725	13,577	9,092	10,411

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Net Tuition Changes by Income and Financial Need

An examination of net tuition measures separately for income and financial need quartiles shows that, across all levels of income and need, full-time students attending private not-for-profit research and doctoral institutions faced higher average net tuition between 1992–93 and 1999–2000 after federal grants were subtracted (net tuition 1) (table 5-A). In addition, for

students with high financial need, the increase was greater than that for those with moderate need. On the other hand, for net tuition 2 (minus all grants), no increase could be detected for students in the low-income quartile, nor for those in either the moderate- or high-need quartiles. In other words, when all grants were considered, no difference in average net tuition could be detected for low-income students, nor for those students with moderate or high need, while those with higher income and low need did face increases.

In summary, for full-time students attending private not-for-profit research and doctoral institutions, all income and financial need groups experienced increases in net tuition between 1992–93 and 1999–2000 when only federal grants were considered (net tuition 1). Furthermore, those with the highest financial need faced larger average increases in net tuition 1 than those with moderate need. When all grants were considered (net tuition 2), the average increases in total grant aid offset increases in net tuition for low-income students as well as for those with moderate or high need, while their higher-income and lower-need counterparts needed to rely on additional financial resources, such as student loans, to meet the tuition increases.

Private Not-for-Profit 4-Year Comprehensive and Baccalaureate Institutions

At private not-for-profit 4-year comprehensive and baccalaureate institutions, full-time undergraduate students experienced increases in average total tuition and in net tuition 1 (minus federal grants) between 1992–93 and 1999–2000 (table 5-B). However, no increase was detected for net tuition 2 (minus all grants), suggesting that increases in federal, state, and institutional grant aid had offset the average increases in total tuition for students attending these institutions.

Net Tuition Changes by Income and Financial Need

When examining changes in net tuition by income and financial need, the average net tuition minus federal grants (net tuition 1) increased for students in the middle- and high-income quartiles between 1992–93 and 1999–2000, but an increase was not detected for low-income students (table 5-B).[14] When levels of financial need were examined separately, no difference was detected in net tuition 1 for the *lowest* need group, while those with higher need did experience an increase. It is not clear why students in the lowest need group, who typically correspond to the highest income students, experienced no measurable increase, while those with higher need did. No change was detected for net tuition 2 (minus all grants) for any income or financial need group.

[14]Low-income students did not experience an increase in the average total tuition, so increases in net tuition 1 or 2 would not be expected.

Table 5-B.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year comprehensive and baccalaureate institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit comprehensive and baccalaureate					
Total	$12,310	$14,001	$11,476	$13,248	$8,064	$7,820
Income quartiles						
Bottom quartile	10,621	11,308	8,285	8,851	4,340	4,340
Middle quartiles	11,825	14,266	11,272	13,930	6,862	7,578
High quartile	13,895	15,863	13,860	15,849	11,601	11,270
Financial need quartiles						
High need (high quartile)	16,070	18,036	14,486	16,679	8,074	7,933
Moderate need (middle quartiles)	10,342	12,319	9,388	11,511	6,334	6,897
Low need (bottom quartile)	12,222	13,341	12,192	13,311	10,504	9,579
Dependency status						
Dependent	13,178	14,873	12,528	14,260	8,901	8,277
Independent	8,937	9,757	7,396	8,326	4,751	5,595

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

In summary, for full-time students attending private not-for-profit 4-year comprehensive and baccalaureate institutions, the average net tuition minus federal grants (net tuition 1) increased for middle- and high-income students between 1992–93 and 1999–2000, while no change was detected for low-income students. When all grants were taken into consideration (net tuition 2), no differences in average net tuition could be detected across all levels of income and financial need. Increases in federal, state, and institutional grants combined offset the increases in total tuition for all income and need groups among those attending private comprehensive and baccalaureate institutions.

Public 2-Year Colleges

At public 2-year institutions, average total tuition for full-time students rose from about $1,400 to $1,600 between 1992–93 and 1999–2000 (table 6). However, when federal aid was subtracted from tuition (net tuition 1), no increase was detected in average net tuition. Thus, unlike the findings for students in the 4-year sector, for full-time community college students, increases in federal grant aid appeared to offset increases in total tuition. No change was detected in net tuition 2 (minus all grants) between 1992–93 and 1999–2000.

Net Tuition Changes by Income and Financial Need

When taking income into consideration, no changes were detected for either net tuition 1 (minus federal grants) or net tuition 2 (minus all grants) for any income group (table 6).

Table 6.—Among all full-time, full-year undergraduates attending public 2-year institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
			Public 2-year			
Total	$1,391	$1,580	$1,009	$1,135	$873	$927
Income quartiles						
Bottom quartile	1,398	1,542	496	628	392	456
Middle quartiles	1,400	1,627	1,187	1,348	1,035	1,110
High quartile	1,425	1,512	1,400	1,501	1,249	1,311
Financial need quartiles						
High need (high quartile)	1,688	1,838	769	828	673	618
Moderate need (middle quartiles)	1,307	1,556	950	1,130	792	913
No need (bottom quartile)	1,384	1,401	1,384	1,400	1,237	1,206
Dependency status						
Dependent	1,367	1,629	1,163	1,298	1,021	1,066
Independent	1,433	1,491	732	843	605	676

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

However, when examining financial need, an increase in net tuition 1 (minus federal grants) was detected for students with moderate financial need, but no differences were detected for those with no need or high need. For net tuition 2, no change was detected for any financial need group.

In summary, in contrast to the findings for 4-year colleges and universities, for full-time students enrolled in public 2-year colleges, federal grants increased enough to cover the increase in total tuition. This was found to be the case for students at all income levels, with the exception of students with moderate financial need, who did experience an increase in total tuition and net tuition 1. Taking into account grants from all sources (net tuition 2), no change in net tuition was detected for any income or financial need group.

Changes in Net Price

Paralleling the patterns for college tuition, the total price of college attendance increased across all institution types, as did net price after subtracting federal and state grants (net price 1). However, when all grants were subtracted from total price (net price 2), full-time students faced an increase in net price between 1992–93 and 1999–2000 in research and doctoral institutions (both public and private not-for-profit) and in public 2-year colleges. No such increase was detected for students attending comprehensive and baccalaureate institutions (either in the public or private not-for profit sector), however. Thus, while the increase in total grants between 1992–93 and 1999–2000 was sufficient to cover the increase in tuition at all institution types, for many undergraduates—those attending research and doctoral universities and 2-year colleges—all grants combined did not cover student living expenses when added to the total amount students pay to attend college. Not until loans were factored into price (net price 3) was no difference detected in the net price students paid to attend college in 1999–2000, compared with the net price paid in 1992–93, after adjusting for inflation. Not only was no increase detected in net price after including loans, in some cases, the net price measure declined between the two periods, indicating a substantial increase in borrowing. The following discussion analyzes price changes for each institution type.

Public 4-Year Research and Doctoral Institutions

The changes in different price measures between 1992–93 and 1999–2000 are shown in table 7-A for full-time students attending public 4-year research and doctoral institutions. Total price for these students increased from $12,200 to $13,600, net price 1 (minus federal and state grants) increased from $11,500 to $12,500, and net price 2 (minus all grants) increased from $10,900 to $11,300. However, when all grants and loans were subtracted from total price (net price 3), full-time students actually paid less, on average, in 1999–2000 than in 1992–93. These findings suggest that all grants combined were not sufficient to offset increases in the total price of attendance and that student loans contributed to a reduction in net price over the period studied.

Table 7-A.—Among all full-time, full-year undergraduates attending public 4-year research and doctoral institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public research and doctoral				
Total	$12,247	$13,581	$11,491	$12,500	$10,876	$11,344	$9,684	$8,874
Income quartiles								
Bottom quartile	11,992	13,257	9,765	10,392	9,108	9,095	6,831	5,655
Middle quartiles	12,024	13,535	11,548	12,868	10,811	11,662	9,507	9,105
High quartile	12,592	13,933	12,483	13,770	12,012	12,819	11,588	11,345
Financial need quartiles								
High need (high quartile)	14,143	15,966	12,036	13,318	11,114	11,452	8,450	7,321
Moderate need (middle quartiles)	11,568	12,742	10,989	11,900	10,409	10,929	9,152	8,493
No need (bottom quartile)	11,506	12,909	11,425	12,718	10,945	11,864	10,870	10,678
Dependency status								
Dependent	12,203	13,503	11,666	12,606	11,010	11,374	10,117	9,314
Independent	12,436	13,938	10,639	12,020	10,208	11,209	7,588	6,878

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Net Price Changes by Income and Financial Need

For full-time students at public research and doctoral institutions, net price 1 (minus federal and state grants) increased for all income and need groups. However, middle-income students experienced larger average increases than did low-income students (table 7-A). There was also growth in net price 2 (minus all grants) for students in middle- and high-income quartiles, but no such increase was detected for students in the low-income quartile. Similarly, no measurable change was detected in net price 2 for the highest need students, while those with no need or moderate need experienced increases. This finding suggests that the increase in all grants was sufficient for both low-income students and those with high need to meet the increase in total price of attendance between 1992–93 and 1999–2000.

When all forms of financial aid, including student loans, were factored into price (net price 3), declines in average price between 1992–93 and 1999–2000 were detected for students in low- and middle-income quartiles, but not for those in the high-income quartile. Similarly, students with high or moderate need experienced reductions in net price 3, while this pattern did not apply to those with no need.

In summary, after federal and state grants were subtracted from the total price of attendance (net price 1), the average price of attendance increased for full-time students in public research and doctoral institutions in all income and need groups. In addition, middle-income students faced larger increases than did low-income students. When all grants were considered (net price 2), middle- and high-income students still faced an increase in average net price, while none was detected for low-income students. Similarly, only students with either no need or moderate need experienced increases in net price 2, while no increase was detected for those with high need. Finally, when loans were factored into price (net price 3), reductions in the average price of attendance were observed for low- and middle-income students, as well as for those with moderate and high need, but similar reductions in price were not detected for either high-income students or those without need. The findings indicate that all grants helped offset increases in the price of attendance for low-income and high-need students and that student loans were required to meet the increase in total price of attendance for both middle- and high-income students.

Public 4-Year Comprehensive and Baccalaureate Institutions

For full-time students enrolled at public 4-year comprehensive and baccalaureate institutions, the total average price of attendance increased from $10,300 to $11,200 between 1992–93 and 1999–2000, and net price 1 (minus federal and state grants) increased from $9,300 to $9,900 (table 7-B). However, during the same period, increases in all grants (net price 2) helped students meet the increases in average total price (i.e., no statistical change was detected for net price 2). Furthermore, the increase in student borrowing, combined with the increases in all grants (net price 3), contributed to a decline in what students paid for a college education between 1992–93 and 1999–2000—i.e., total price minus all grants and student loans (net price 3) decreased from $7,700 to $6,900 over the time frame studied.

Net Price Changes by Income and Financial Need

When considering the effect of federal and state grants alone, or all grants combined, on the net price of attendance, no change in either net price 1 (minus federal and state grants) or net price 2 (minus all grants) was detected for low-income students between 1992–93 and 1999–2000. However, among students in the middle- and high-income quartiles, there were increases

Table 7-B.—Among all full-time, full-year undergraduates attending public 4-year comprehensive and baccalaureate institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public comprehensive and baccalaureate				
Total	$10,255	$11,176	$9,258	$9,938	$8,914	$9,287	$7,704	$6,851
Income quartiles								
Bottom quartile	10,265	10,884	7,899	8,097	7,521	7,528	5,709	4,546
Middle quartiles	10,191	11,177	9,623	10,441	9,238	9,754	7,995	7,283
High quartile	10,416	11,600	10,335	11,485	10,081	10,797	9,572	9,275
Financial need quartiles								
High need (high quartile)	12,016	13,138	9,757	10,368	9,322	9,430	6,913	5,390
Moderate need (middle quartiles)	9,722	10,342	8,752	9,268	8,394	8,750	7,081	6,500
No need (bottom quartile)	9,529	10,882	9,476	10,750	9,207	10,124	9,127	8,858
Dependency status								
Dependent	9,923	10,974	9,182	9,987	8,831	9,283	7,930	7,295
Independent	11,207	11,802	9,445	9,791	9,126	9,297	6,999	5,524

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

in both net price measures over time. When financial need was examined, students in both the low- and high-need quartiles experienced an increase in net price 1, while no such increase was detected for those with moderate need; for net price 2, students with no need faced increases, while no change was detected for those with moderate or high need.

When student loans were factored into the net price of attendance (net price 3), no increase in average price was detected for students in any income or financial need group. Furthermore, reductions in net price 3 were experienced by low- and middle-income students, as well as for those with moderate or high need.

In summary, among full-time students attending public comprehensive and baccalaureate institutions, federal and state grants were sufficient to offset average increases in total price between 1992–93 and 1999–2000 for low-income students and for students with moderate need.

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Likewise, when all grants were considered (net price 2), no increase in average price was detected for either low-income or high-need students, but the remaining students did face increases in price. Finally, when loans were factored into price (net price 3), no increases were observed for students in any income or need group, and reductions in average price were found for low- and middle-income students as well as for moderate- and high-need students.

Private Not-for-Profit 4-Year Research and Doctoral Institutions

As illustrated in table 8-A, the average total price of attendance, net price 1 (minus federal and state grants), and net price 2 (minus all grants) all increased over time for full-time students in private not-for-profit 4-year research and doctoral institutions. Between 1992–93 and 1999–

Table 8-A.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year research and doctoral institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit research and doctoral							
Total	$25,222	$29,274	$24,342	$28,083	$20,351	$21,713	$18,121	$18,039
Income quartiles								
Bottom quartile	24,239	28,106	20,904	24,489	15,436	15,984	11,597	10,853
Middle quartiles	24,996	29,016	24,129	27,955	18,170	20,249	15,275	15,934
High quartile	25,739	30,096	25,696	29,975	23,385	25,953	21,977	23,620
Financial need quartiles								
High need (high quartile)	28,287	33,694	26,021	30,768	18,531	19,100	14,611	13,777
Moderate need (middle quartiles)	24,711	28,518	24,018	27,589	20,233	21,791	17,674	17,842
Low need (bottom quartile)	23,058	26,467	22,975	26,436	21,247	24,099	20,726	22,569
Dependency status								
Dependent	25,423	29,796	24,677	28,683	20,607	21,912	18,596	18,301
Independent	23,608	24,514	21,624	22,622	18,269	19,899	14,257	15,662

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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2000, the total price of attendance increased from $25,200 to $29,300; net price 1 (minus federal and state grants) increased from $24,300 to $28,100; and net price 2 (minus all grants) increased from $20,400 to $21,700. These increases suggest that students were dependent on additional resources such as student loans to pay for their college education. The examination of net price 3 (price minus all grants and loans) indicates that students borrowed enough to compensate for the average increase in the price of attendance (i.e., no changes could be detected in net price 3 between 1992–93 and 1999–2000).

Net Price Changes by Income and Financial Need

The examination of differences within income and need quartiles revealed that net price 1 (minus federal and state grants) increased for students in all income and financial need groups. Net price 2 (minus all grants) increased for middle- and high-income students and for students with low and moderate need, but no change was detected for either low-income or high-need students.

When student loans were factored into net price (net price 3), only high-income students faced an increase in price, while no change was detected for students in low- or middle-income quartiles or for students in any need group.

In summary, for full-time students attending private not-for-profit research and doctoral institutions, federal and state grants did not offset increases in the price of attendance (net price 1) for any income or need group. When all grants were taken into consideration (net price 2), no change in average price was detected for either low-income students or those with high need. Finally, when loans were factored into price (net price 3), only high-income students paid a higher average price of attendance, while no such change in price was observed for middle- or low-income students or for students in any financial need group.

Private Not-for-Profit 4-Year Comprehensive and Baccalaureate Institutions

Table 8-B shows comparisons between different average price measures in 1992–93 and 1999–2000 for full-time students attending private not-for-profit 4-year comprehensive and baccalaureate institutions. The average total price of attendance increased from $19,600 to $22,200, and net price 1 (minus federal and state grants) increased from $18,100 to $20,600. However, when all grants were considered (net price 2), no change in price was detected overall. This finding suggests that the increase in total grant aid helped students meet the increase in total price of attendance from 1992–93 to 1999–2000. Furthermore, when loans were taken into

Table 8-B.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year comprehensive and baccalaureate institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit comprehensive and baccalaureate							
Total	$19,587	$22,240	$18,119	$20,599	$15,098	$15,675	$12,924	$11,606
Income quartiles								
Bottom quartile	17,913	18,946	14,323	15,028	11,261	11,450	8,326	7,320
Middle quartiles	19,045	22,652	17,816	21,349	13,792	15,574	11,063	11,077
High quartile	21,247	24,290	21,049	24,082	18,834	19,508	17,605	16,253
Financial need quartiles								
High need (high quartile)	23,917	27,376	21,215	24,520	15,634	16,629	12,298	11,227
Moderate need (middle quartiles)	17,552	20,133	15,896	18,475	13,260	14,412	10,679	10,292
Low need (bottom quartile)	19,073	21,256	18,911	20,919	17,197	17,273	16,592	14,671
Dependency status								
Dependent	20,108	22,935	18,890	21,480	15,600	15,986	13,752	12,131
Independent	17,561	18,731	15,119	16,269	13,084	14,146	9,596	9,024

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

consideration (net price 3), students paid less on average in 1999–2000 ($11,600) than they did in 1992–93 ($12,900).

Net Price Changes by Income and Financial Need

When examining the trends by income and financial need quartiles among students attending private not-for-profit comprehensive and baccalaureate institutions, net price 1 (minus federal and state grants) increased for both middle- and high-income students, but not for low-income students.[15] With respect to financial need, net price 1 increased across all need quartiles.

[15]The average total price of attendance did not increase significantly for low-income students in private not-for-profit comprehensive and baccalaureate institutions.

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When all grants were taken into consideration (net price 2), no increase in price was detected for any income or need group except for those in the middle-income quartiles.

When student loans were factored into price (net price 3), borrowing offset the increase in average total price of attendance for all students, regardless of income or need. That is, no increase in price was detected for any income or need quartile, and students with the lowest need experienced a reduction in price.

In summary, among full-time undergraduates attending private not-for-profit comprehensive and baccalaureate institutions, both middle- and high-income students faced increases in price after government grants and after all grants were subtracted. These students had to rely on loans to help them meet the increase in the price of attendance. No increase in price was detected for any income or need group after loans were subtracted from price, and those with low need experienced a reduction in price.

Public 2-Year Colleges

For full-time students enrolled in public 2-year institutions, the changes in different price measures between 1992–93 and 1999–2000 are shown in table 9. Average price increases were detected for the total price of attendance, net price 1 (minus federal and state grants), and net price 2 (minus all grants). However, no change in price was detected for net price 3 (minus all grants and loans), indicating that students attending public 2-year colleges relied on loans to meet the increase in total price of attendance.

Net Price Changes by Income and Financial Need

Increases in both net price 1 (minus federal and state grants) and net price 2 (minus all grants) were detected for middle- and high-income students, as well as for students with no need. However, no increase in either net price 1 or net price 2 was detected for low-income students and those with moderate or high need. When student loans were factored into price (net price 3), only high-income students and students with no need paid more in 1999–2000 than in 1992–93.

In summary, among full-time students attending public 2-year institutions, the increase in federal and state grants between 1992–93 and 1999–2000 was sufficient to offset the increases in total price over the same period for low-income students and for those with moderate or high financial need. When student loans were taken into account, middle-income students were able to meet the increase in price of attendance. Only high-income students and students with no need still faced an increase in price.

Table 9.—Among all full-time, full-year undergraduates attending public 2-year institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public 2-year				
Total	$8,048	$9,081	$7,272	$7,949	$7,072	$7,673	$6,758	$7,030
Income quartiles								
Bottom quartile	8,253	8,958	6,416	6,699	6,238	6,391	5,712	5,674
Middle quartiles	8,037	9,146	7,609	8,415	7,397	8,151	7,130	7,481
High quartile	7,973	9,122	7,934	9,036	7,704	8,786	7,562	8,370
Financial need quartiles								
High need (high quartile)	9,798	10,992	7,994	8,538	7,846	8,207	7,133	6,774
Moderate need (middle quartiles)	7,585	8,405	6,864	7,285	6,626	6,999	6,336	6,467
No need (bottom quartile)	7,405	8,541	7,359	8,439	7,172	8,223	7,136	8,074
Dependency status								
Dependent	7,633	8,557	7,217	7,723	7,019	7,437	6,905	7,097
Independent	8,769	10,068	7,373	8,357	7,164	8,099	6,502	6,910

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Summary and Conclusions

This report examined several measures of net tuition and net price to determine what students paid to attend college once financial aid was taken into consideration and how the amount they paid changed over time between 1992–93 and 1999–2000. As was found in earlier studies, both average total tuition and average total price of attendance increased markedly between 1992–93 and 1999–2000 for undergraduates attending full time for a full year after adjusting for inflation. When considering various measures of net tuition and net price, the increases in financial aid grants from all sources (including federal, state, and institution) offset the increases in tuition and price for many groups of students and generally did so in favor of those who could least afford to pay the increases—low-income students and those with the highest financial need. For example, as shown in figure 2, once all grants, including federal, state, and institutional grants, were subtracted from tuition (net tuition 2), no difference in net tuition overall could be detected for any institution type. When examining separate income and need levels, however, among those attending research and doctoral institutions (both public and private not-for-profit), middle-income and high-income students and those with the lowest need did face increases.

When examining the *price* of attending college, which includes students' living expenses in addition to tuition and fees, after subtracting federal and state grants from the total price (net price 1), students still faced a higher average price of attendance in 1999–2000 than they did in 1992–93. This was found for all institution types analyzed in the study. However, when examining income quartiles separately, among undergraduates attending either comprehensive and baccalaureate institutions (public and private not-for-profit) or public 2-year colleges, no differences in net price 1 were detected for low-income students. In other words, once federal and state grants were taken into consideration, grant aid packages for low-income students attending comprehensive and baccalaureate institutions and low-income students enrolled in public 2-year colleges matched the increase in total price.

When institutional and other grants were subtracted from the total price (net price 2), no change overall was detected in average net price for students in comprehensive and baccalaureate institutions (public and private not-for-profit). Across all institution types, no increases in net price were detected for students in the lowest income quartile or for those students with the highest need. In other words, the increase in combined federal, state, and institutional total grant

Figure 2.—Overall changes in tuition and price for full-time, full-year undergraduates between 1992–93 and 1999–2000, by institution type, income, and need

	Net tuition			Net price			
	Total tuition	Net tuition 1 (tuition minus federal grants)	Net tuition 2 (tuition minus all grants)	Total price	Net price 1 (price minus federal and state grants)	Net price 2 (price minus all grants)	Net price 3 (price minus grants and loans)
Public 4-year							
Research and doctoral	+	+	ns	+	+	+	–
Income							
Low	+	+	ns	+	+	ns	–
Middle	+	+	+	+	+	+	–
High	+	+	+	+	+	+	ns
Need							
High	+	ns	ns	+	+	+	ns
Moderate	+	+	+	+	+	+	–
Low	+	+	+	+	+	ns	–
Comprehensive and baccalaureate	+	+	ns	+	+	ns	–
Income							
Low	+	ns	ns	+	ns	ns	–
Middle	+	+	ns	+	+	+	–
High	ns	ns	ns	+	+	+	ns
Need							
High	+	ns	ns	+	+	ns	ns
Moderate	+	+	ns	+	ns	ns	–
Low	+	ns	ns	+	+	+	–
Private not-for-profit 4-year							
Research and doctoral	+	+	ns	+	+	+	ns
Income							
Low	+	+	ns	+	+	ns	ns
Middle	+	+	+	+	+	+	ns
High	+	+	+	+	+	+	+
Need							
High	+	+	ns	+	+	+	ns
Moderate	+	+	ns	+	+	+	ns
Low	+	+	+	+	+	ns	ns
Comprehensive and baccalaureate	+	+	ns	+	+	ns	–
Income							
Low	ns	ns	ns	ns	ns	ns	ns
Middle	+	+	ns	+	+	+	ns
High	+	+	ns	+	+	ns	ns
Need							
High	+	+	ns	+	+	ns	ns
Moderate	+	+	ns	+	+	ns	ns
Low	ns	ns	ns	+	+	ns	–

See footnotes at end of table.

Figure 2.—Overall changes in tuition and price for full-time, full-year undergraduates between 1992–93 and 1999–2000, by institution type, income, and need—Continued

	Net tuition			Net price			
	Total tuition	Net tuition 1 (tuition minus federal grants)	Net tuition 2 (tuition minus all grants)	Total price	Net price 1 (price minus federal and state grants)	Net price 2 (price minus all grants)	Net price 3 (price minus grants and loans)
Public 2-year	**+**	**ns**	**ns**	**+**	**+**	**+**	**ns**
Income							
Low	ns	ns	ns	+	ns	ns	ns
Middle	+	ns	ns	+	+	+	ns
High	ns	ns	ns	+	+	+	+
Need							
High	ns	ns	ns	+	ns	ns	ns
Moderate	+	+	ns	+	ns	ns	ns
Low	ns	ns	ns	+	+	+	+

+ Increase ($p<0.05$).

– Decrease ($p<0.05$).

ns No significant change detected.

NOTE: Comparisons were made after adjustments for inflation.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

aid appeared to be sufficient to offset increases in net price between 1992–93 and 1999–2000 for low-income students and those with the highest need.

With a few exceptions, once loans and grants were subtracted from total price (net price 3), no increases in net price could be detected for any income or need group across all institutions, with some experiencing reductions in price. Students attending any public 4-year institution and those attending private not-for-profit comprehensive and baccalaureate institutions borrowed enough to reduce the average price of attendance between 1992–93 and 1999–2000. Those attending private not-for-profit research and doctoral institutions or public 2-year colleges borrowed enough to offset the increase in the total price over the same period (i.e., no change was detected in net price after subtracting all grants and loans). Looking within income levels, however, high-income students attending private not-for-profit research and doctoral institutions or public 2-year colleges paid more on average in 1999–2000 than undergraduates did in 1992–93. In other words, once all financial aid, including loans, was subtracted from the total price of attendance, high-income students attending private not-for-profit research and doctoral institutions and high-income and no-need students attending public 2-year colleges were the only full-time undergraduates who paid more to attend college in 1999–2000 than did those with comparable income and need in 1992–93.

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Appendix A—Glossary

This glossary describes the variables used in this report. The items were taken directly from the NCES NPSAS:93 and NPSAS:2000 undergraduate Data Analysis Systems (DAS), software applications that generate tables from the survey data (see appendix B for a description). The variables listed in the index below are organized by sections in the order they appear in the report. If the variable names are different in the two surveys, both variable names are listed. The glossary is in alphabetical order by descriptive label (i.e., "income quartiles").

Glossary Index

Student Characteristics

Income quartiles ..... PCTALL (1993)
..... PCTALL2 (2000)
Dependency status DEPEND4
Citizenship CTZNSHP2 (1993)
..... CITIZEN2 (2000)
Gender ..... GENDER
Race/ethnicity RACE1 (1993)
..... RACE2R (2000)

Financial Aid and Financial Need

Federal grants ..... TFEDGRT
Federal loans (excl. PLUS) ..... TFEDLNR (1993)
..... TFEDLN (2000)
State grants ..... STGTAMT
Institutional grants ..... INGRTAMT
Institutional merit-only grants ..... INSTNOND (1993)
..... INSMERIT (2000)
Financial need quartiles SNEED3R2 (1993)
..... FTNEED1 (2000)

Attendance and Institution

Attendance status (full-time, full-year) ... ATTNSTAT
Carnegie code ..... CARNEGIE
Institution control ..... CONTROL

Tuition and Price

Total tuition and fees TUITION2
Net tuition 1 ..... NETCST8 (1993)
..... NETCST10 (2000)
Net tuition 2 ..... NETCST7R (1993)
..... NETCST9 (2000)
Total price of attendance ..... BUDGETAR (1993)
..... BUDGETFT (2000)
Net price 1 ..... NETCST16
Net price 2 ..... NETCST3X (1993)
..... NETCST7 (2000)
Net price 3 ..... NETCST17

DAS Variable Name

Attendance pattern **ATTNSTAT**

Combined attendance intensity and persistence. Intensity refers to the student's full- or part-time attendance while enrolled. Persistence refers to the number of months a student was enrolled during the year. Students were considered to have been enrolled for a full year if they were enrolled at least nine months between July and the following June of the survey year. Months did not have to be contiguous or at the same institution, and students did not have to be enrolled for a full month in order to be considered enrolled for that month. Includes enrollment at all institutions.

Full-time, full-year	Student was enrolled full time for at least nine months during survey years. Additional months enrolled could be part time.
Full-time, part-year	Student was enrolled full time for less than nine months during survey years and attending full time in all of these months.
Part-time, full-year	Student was enrolled nine or more months during survey years, and some of these months were part time.
Part-time, part-year	Student was enrolled less than nine months during survey years, and some of these months were part time.

Carnegie code **CARNEGIE**

The 1994 CARNEGIE Classification code for the NPSAS sample institution was used for both survey years. The 1994 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. For the analysis, research I and II and doctoral I and II were combined into one category called "research and doctoral"; and masters or comprehensive and baccalaureate I and II were combined into one category called "comprehensive and baccalaureate."

Research Universities I	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually $40 million or more in federal support.
Research Universities II	These institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate, and give high priority to research. They award 50 or more doctoral degrees each year. In addition, they receive annually between $15.5 million and $40 million in federal support.
Doctoral Universities I	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least 40 doctoral degrees annually in five or more disciplines.
Doctoral Universities II	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the doctorate. They award annually at least 10 doctoral degrees—in three or more disciplines—or 20 or more doctoral degrees in one or more disciplines.

DAS Variable Name

Carnegie code (continued) **CARNEGIE**

Master's (Comprehensive) Colleges I	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 40 or more master's degrees annually in three or more disciplines.
Master's (Comprehensive) Colleges II	These institutions offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. They award 20 or more master's degrees annually in one or more disciplines.
Baccalaureate (Liberal Arts) Colleges I	These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award 40 percent or more of their baccalaureate degrees in liberal arts fields and are restrictive in admissions.
Baccalaureate Colleges II	These institutions are primarily undergraduate colleges with major emphasis on baccalaureate degree programs. They award less than 40 percent of their baccalaureate degrees in liberal arts fields or are less restrictive in admissions.

In the analysis, Research Universities I and II were combined with Doctoral Universities I and II and were called Research and Doctoral Institutions. Similarly, Master's Colleges I and II were combined with Baccalaureate Colleges I and II and were called Comprehensive and Baccalaureate Institutions.

Citizenship **CTZNSHP2 (1993); CITIZEN2 (2000)**

Indicates a student's citizenship status and financial aid eligibility. Variable was constructed from data reported on Free Application for Federal Student Aid (FAFSA). If the student did not apply for aid, citizenship was obtained from the student or institution.

U.S. citizen	Student was a U.S. citizen.
Permanent resident	Student was not a U.S. citizen but was eligible for financial aid.
Foreign/international student	Student was not a U.S. citizen and was not eligible for financial aid.

In the analysis, foreign students who are not eligible for financial aid were excluded from the sample.

Dependency status **DEPEND4**

Student dependency status for financial aid including marital status. Combines student dependency status, marital status, and whether they have dependents. Married but separated students are classified as married. Students were considered to be independent if they met any of the following criteria:

1) Student was 24 years old or older as of 12/31 as of 1992 (for NPSAS:93) or 1999 (for NPSAS:2000);
2) Student was a veteran of the U.S. Armed Forces;
3) Student was enrolled in a graduate or professional program (beyond a bachelor's degree);
4) Student was married;
5) Student was an orphan or ward of the court; or
6) Student had legal dependents other than spouse.

DAS Variable Name

Dependency status (continued) **DEPEND4**

Dependent
Independent, no dependents, unmarried
Independent, no dependents, married
Independent with dependents

In the analysis, all independent students were combined.

Federal grants **TFEDGRT**

Total amount of federal grants received by a student. Includes Pell Grants, SEOG grants, and a small number of Robert Byrd Scholarships. Does not include federal veteran's benefits or military education aid. The 1993 amount was converted to 1999 dollars using the Consumer Price Index.

Federal loans (excluding PLUS) **TFEDLNR (1993); TFEDLN (2000)**

Indicates the total amount of federal loans, excluding PLUS loans to parents. Includes Perkins, Stafford, and federal loans through the Public Health Service received. The 1993 amount was converted to 1999 dollars using the Consumer Price Index.

Financial need quartiles

Financial need is equal to the full-time, full-year student budget minus the federal expected family contribution (EFC). Negative values were recoded to zero. Need groups were aggregated into approximate quartiles within each type of institution for each survey year. In public institutions, the lowest need group was made up of students with no remaining need (i.e., need less than $100), which was sometimes greater than 25 percent, ranging from about 26 percent (for public comprehensive and baccalaureate) to about 30 percent (for public 2-year and public research and doctoral institutions). The high need group was always the top 25 percent. In the tables, high need is presented first and low need last to be consistent with the income groupings. The amounts shown below for NPSAS:93 are in real dollars.

NPSAS:93 **SNEED3R2**

Public research and doctoral
- Low quartile (no need)
- Middle quartiles (need less than $7,500)
- High quartile (need $7,500 or more)

Public comprehensive and baccalaureate
- Low quartile (no need)
- Middle quartiles (need less than $6,900)
- High quartile (need $6,900 or more)

Private not-for-profit research and doctoral
- Low quartile (need less than $5,600)
- Middle quartiles (need $5,600 to $17,599)
- High quartile (need $17,600 or more)

Private not-for-profit comprehensive and baccalaureate
- Low quartile (need less than $5,300)
- Middle quartiles (need $5,300 to $13,599)
- High quartile (need $13,600 or more)

Public 2-year
- Low quartile (no need)
- Middle quartiles (need less than $6,000)
- High quartile (need $6,000 or more)

DAS Variable Name

Financial need quartiles (continued)

NPSAS:2000 **FTNEED1**

Public research and doctoral
- Low quartile (no need)
- Middle quartiles (need less than $11,000)
- High quartile (need $11,000 or more)

Public comprehensive and baccalaureate
- Low quartile (no need)
- Middle quartiles (need less than $9,500)
- High quartile (need $9,500 or more)

Private not-for-profit research and doctoral
- Low quartile (need less than $8,100)
- Middle quartiles (need $8,100–$26,999)
- High quartile (need $27,000 or more)

Private not-for-profit comprehensive and baccalaureate
- Low quartile (need less than $7,300)
- Middle quartiles ($7,300–$19,799)
- High quartile ($19,800 or more)

Public 2-year
- Low quartile (no need)
- Middle quartiles (need less than $8,000)
- High quartile ($8,000 or more)

Income quartiles

Quartiles were aggregated from income percentiles for all undergraduates enrolled in U.S. postsecondary institutions. Percentiles were calculated separately for dependent and independent students and then combined into one variable. Each ranking compares the student only to other students of the same dependency status. Parents' income is used if student is dependent and student's own income is used if student is independent. Total income in 1991 was used for NPSAS:93 and income in 1998 was used for NPSAS:2000. The income from these years is what was reported on the financial aid applications and used for federal need analysis. The amounts shown for NPSAS:93 are in real dollars. Income quartiles for NPSAS:93 and NPSAS:2000 are as follows:

NPSAS:93 **PCTALL**

Dependent students
- Low quartile (Less than $24,000)
- Middle quartiles ($24,000 to $69,999)
- High quartile ($70,000 or more)

Independent students
- Low quartile (Less than $8,000)
- Middle quartiles ($8,000 to $34,999)
- High quartile ($35,000 or more)

NPSAS:2000 **PCTALL2**

Dependent students
- Low quartile (Less than $30,000)
- Middle quartiles ($30,000 to $81,999)
- High quartile ($82,000 or more)

Independent students
- Low quartile (Less than $12,000)
- Middle quartiles ($12,000 to $48,999)
- High quartile ($49,000 or more)

DAS Variable Name

Institution control **CONTROL**

Indicates the control of the NPSAS institution where the student was sampled. Private for-profit institutions were excluded from the analysis.

Public	A postsecondary education institution, which is supported primarily by public funds and operated by publicly elected or appointed officials who control the programs and activities.
Private not-for-profit	A postsecondary education institution that is controlled by an independent governing board and incorporated under Section 501(c)(3) of the Internal Revenue Code.

Gender **GENDER**

Male
Female

Institutional grants **INGRTAMT**

Indicates the total grant aid from institutional funds received. Includes all institutional grants, scholarships, and tuition waivers received during the NPSAS year. Includes need-based and merit-only awards. At public institutions in some states the distinction between state and institutional grant funds is not always clear because grants are funded by the state but are allocated by the institutions. The California Community College Board of Governor's Grants, California State University Grants, and Educational Opportunity Grants are classified as institutional grants. The 1993 amount was converted to 1999 dollars using the Consumer Price Index.

Institutional merit-only grants **INSTNOND (1993); INSMERIT (2000)**

Institutional merit-only grants and scholarships. Includes all athletic scholarships. Merit-only scholarships are not based on need, but they may be awarded to students who also qualify for need-based aid. The 1993 amount was converted to 1999 dollars using the Consumer Price Index.

Net price 1 **NETCST16**

Net price for full-time, full-year students after federal and state grants were subtracted from the student budget (total price). Negative values were recoded to zero. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Net price 2 **NETCST3X (1993); NETCST7 (2000)**

Net price for full-time, full-year students after all grants were subtracted from the student budget (total price). Negative values were recoded to zero. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

DAS Variable Name

Net price 3 **NETCST17**

Net price for full-time, full-year students after all grants and loans were subtracted from the student budget (total price). Negative values were recoded to zero. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Net tuition 1 **NETCST8 (1993); NETCST10 (2000)**

Net tuition for full-time, full-year students after federal grants were subtracted from total tuition. Negative values were recoded to zero. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Net tuition 2 **NETCST9**

Net tuition for full-time, full-year students after all grants were subtracted from total tuition. Negative values were recoded to zero. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Race/ethnicity **RACE1 (1993); RACE2R (2000)**

Student's race/ethnicity.

White, non-Hispanic	A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
Black, non-Hispanic	A person having origins in any of the black racial groups of Africa.
Hispanic	A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
Asian/Pacific Islander	A person having origins in any of the peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This includes people from China, Japan, Korea, the Philippine Islands, India, Vietnam, Hawaii, and Samoa.
American Indian/Alaska Native	A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

In NPSAS:2000, students could chose more than one race. Those who did were asked, for historical purposes, what single race they would choose if choosing more than one race was not an option.

State grants **STGTAMT**

Total amount of state grants and scholarships (including the federal portion of LEAP funds to states) received by the student. At public institutions in some states the distinction between state and institutional grant funds is not always clear because grants are funded by the state but are allocated by the institutions. The 1993 amount was converted to 1999 dollars using the Consumer Price Index.

	DAS Variable Name
Total price of attendance	**BUDGETAR (1993); BUDGETFT (2000)**

Indicates total student budget for full-time, full-year students at the NPSAS institution. Students attending more than one institution were not included. The student budget includes tuition and fees and the total non-tuition expense allowances. Non-tuition expenses include books and supplies, room and board (or housing and food allowances), transportation and personal expenses. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Total tuition and fees	**TUITION2**

Tuition and fees charged full-time, full-year students at the sampled NPSAS institution for students who attended only one institution during the two survey years. The 1993 amount was adjusted to 1999 dollars using the Consumer Price Index.

Appendix B—Technical Notes

The National Postsecondary Student Aid Study

The National Postsecondary Student Aid Study (NPSAS) is a comprehensive nationwide study conducted by the U.S. Department of Education's National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education.[16] It also describes demographic and other characteristics of students enrolled. The NPSAS study is based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. Information is collected from institutions, student interviews, and government data files. For this study, only data for undergraduates from two administrations of the NPSAS survey were analyzed, NPSAS:93 and NPSAS:2000. Both surveys represent more than 16 million undergraduates who were enrolled at some time between July 1 and June 30 of the survey years. The NPSAS:2000 survey was selected for this study because it contains the most recent data available. NPSAS:93 was chosen because it is the earliest survey with data that is strictly comparable to the data in NPSAS:2000. In NPSAS:90 the non-tuition student expenses were derived from student-reported data rather than from the institution-reported student budgets that were used for need analysis. Consequently, the price of attendance, net price and need variables in NPSAS:90 are not comparable to those in the later NPSAS surveys.

For NPSAS:93, the institutional weighted response rate was 88.2 percent and the overall effective response rate for student interviews was 71.4 percent.[17] For NPSAS:2000, the institutional response rate was 97 percent and the weighted overall student interview response rate was 65.6 percent.[18] Because the student telephone interview response rate for NPSAS:2000 was less than 70 percent in some institutional sectors, an analysis was conducted to determine if Computer Assisted Telephone Interview (CATI) estimates were significantly biased due to CATI nonresponse. Considerable information was known for CATI nonrespondents and these data

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[16]For more information on the NPSAS survey, consult the methodology reports for either survey: U.S. Department of Education, National Center for Education Statistics, *Methodology Report for the National Postsecondary Student Aid Study, 1992–93* (NCES 95–211) (Washington, DC: 1995), and *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report* (NCES 2002–152) (Washington, DC: 2002). Additional information is also available at the NPSAS website *http://nces.ed.gov/npsas*.

[17]U.S. Department of Education, NCES, *Methodology Report for the National Postsecondary Student Aid Study, 1992–93*.

[18] U.S. Department of Education, NCES, *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report*.

were used to analyze and reduce the bias. The distributions of several variables using the design-based, adjusted weights for study respondents (study weights) were found to be biased before CATI nonresponse adjustments. The CATI nonresponse and poststratification procedures, however, reduced the bias for these variables; and the remaining relative bias ranged from 0 to 0.35 percent.[19]

Accuracy of Estimates

The statistics in this report are estimates derived from a sample. Two broad categories of error occur in such estimates: sampling and non-sampling errors. Sampling errors occur because observations are made only on samples of populations rather than entire populations. Non-sampling errors occur not only in sample surveys but also in complete censuses of entire populations. Non-sampling errors can be attributed to a number of sources: inability to obtain complete information about all sample members (e.g., some students refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, sampling, and imputing missing data. In addition, some items may be subject to more variation over time.

Adjustments for Inflation

All comparisons between 1992–93 and 1999–2000 of tuition, net tuition, total price of attendance, and net price of attendance were made using constant 1999 dollars based on the Consumer Price Index for All Urban Consumers (CPI-U) table provided by the U.S. Department of Labor, Bureau of Labor Statistics. The average Consumer Price Index was 140.3 in 1992 (for the 1992–93 academic year) and 166.6 in 1999 (for the 1999–2000 academic year). The multiplier used to convert 1992 into 1999 dollars was 1.188. Standard errors also were adjusted for inflation in the same manner.

Data Analysis System

The estimates presented in this report were produced using the NPSAS:93 and NPSAS:2000 undergraduate Data Analysis Systems (DAS). The DAS software makes it possible for users to specify and generate their own tables. With the DAS, users can replicate or expand

[19]For nonresponse bias analysis, see U.S. Department of Education, National Center for Education Statistics, *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), CATI Nonresponse Bias Analysis Report* (NCES 2002–03) (Washington, DC: 2002), available at *http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=200203*

upon the tables presented in this report. In addition to the table estimates, the DAS calculates proper standard errors[20] and weighted sample sizes for these estimates. For example, table B-1 contains standard errors that correspond to estimates in table 4-A in the report. If the number of valid cases is too small to produce a reliable estimate (less than 30 cases), the DAS prints the message "low-N" instead of the estimate.

Table B-1.—Standard errors for table 4-A: Among all full-time, full-year undergraduates attending public 4-year research and doctoral institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by income and financial need quartiles and dependency status

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Public research and doctoral					
Total	$127.3	$58.8	$130.9	$63.2	$125.8	$58.7
Income quartiles						
Bottom quartile	75.9	81.3	76.3	87.9	60.2	80.8
Middle quartiles	78.5	72.9	78.8	75.7	68.4	73.6
High quartile	139.5	108.7	139.1	108.9	142.6	110.8
Financial need quartiles						
High need (high quartile)	178.9	131.1	196.8	143.2	155.1	126.4
Moderate need (middle quartiles)	61.1	72.1	66.5	81.8	68.3	81.2
No need (bottom quartile)	103.1	93.2	103.2	93.3	104.7	90.3
Dependency status						
Dependent	149.0	68.6	150.6	70.8	144.9	68.5
Independent	80.8	87.3	85.8	104.9	77.8	101.0

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

[20]The NPSAS:2000 samples are not simple random samples, and therefore, simple random sample techniques for estimating sampling error cannot be applied to these data. The DAS takes into account the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by the DAS involves approximating the estimator by the linear terms of a Taylor series expansion. The procedure is typically referred to as the Taylor series method.

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In addition to tables, the DAS will also produce a correlation matrix of selected variables to be used for linear regression models. Included in the output with the correlation matrix are the design effects (DEFTs) for each variable in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the stratified sampling method used in the NPSAS surveys.

The DAS can be accessed electronically at http://nces.ed.gov/DAS. For more information about the NPSAS Data Analysis System, contact:

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Statistical Procedures

Differences Between Means

The descriptive comparisons were tested in this report using Student's *t* statistic. Differences between estimates are tested against the probability of a Type I error,[21] or significance level. The significance levels were determined by calculating the Student's *t* values for the differences between each pair of means or proportions and comparing these with published tables of significance levels for two-tailed hypothesis testing.

Student's *t* values may be computed to test the difference between estimates with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \qquad (1)$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. This formula is valid only for independent estimates. When estimates are not independent, a covariance term must be added to the formula:

[21] A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn, when no such difference is present.

$$\frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2 - 2(r)se_1\ se_2}} \tag{2}$$

where r is the correlation between the two variables.[22] The denominator in this formula will be at its maximum when the two estimates are perfectly negatively correlated, that is, when $r = -1$. This means that a conservative dependent test may be conducted by using –1 for the correlation in this formula as follows:

$$t = \frac{E_1 - E_2}{\sqrt{(se_1)^2 + (se_2)^2 + 2se_1 se_2}}. \tag{3}$$

The estimates and standard errors are obtained from the DAS. If the comparison is between the mean of a subgroup and the mean of the total group, the following formula is used:

$$\frac{E_{sub} - E_{tot}}{\sqrt{se_{sub}^2 + se_{tot}^2 - 2p\,se_{sub}^2}} \tag{4}$$

where p is the proportion of the total group contained in the subgroup.[23] The estimates, standard errors, and correlations can all be obtained from the DAS.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large t statistics may appear to merit special attention. This can be misleading since the magnitude of the t statistic is related not only to the observed differences in means or percentages but also to the number of respondents in the specific categories used for comparison. Hence, a small difference compared across a large number of respondents would produce a large t statistic.

A second hazard in reporting statistical tests for each comparison occurs when making multiple comparisons among categories of an independent variable. For example, when making paired comparisons among different levels of income, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" are tested for statistical significance, one must apply a standard that assures a level of significance for all of those comparisons taken together.

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[22]U.S. Department of Education, National Center for Education Statistics, *A Note from the Chief Statistician*, no. 2, 1993.
[23]Ibid.

Comparisons were made in this report only when $p \leq .05/k$ for a particular pairwise comparison, where that comparison was one of k tests within a family. This guarantees both that the individual comparison would have $p \leq .05$ and that for k comparisons within a family of possible comparisons, the significance level for all the comparisons will sum to $p \leq .05$.[24]

For example, in a comparison of the percentages of males and females who attend research and doctoral public institutions, only one comparison is possible (males versus females). In this family, k=1, and the comparison can be evaluated without adjusting the significance level. When respondents are divided into three income groups and all possible comparisons are made, then k=3 and the significance level of each test must be $p \leq .05/3$, or $p \leq .017$. The formula for calculating family size (k) is as follows:

$$k = \frac{j(j-1)}{2} \tag{5}$$

where j is the number of categories for the variable being tested. In the case of income, there are three groups (low quartile, middle two quartiles combined, and high quartile), so substituting 3 for j in equation 5,

$$k = \frac{3(3-1)}{2} = 3$$

Interaction Effects

The overall descriptive comparisons in this report were tested using Student's t statistic (comparing tuition and price measures between the two time periods). However, determining differential changes in net price across years for particular groups of students involved a test of interaction effects. These interaction effects were tested with a two-way Analysis of Variance (ANOVA). For example, in comparing the change in net price between 1992–93 and 1999–2000 by income level, a test was conducted on the interaction between income level and a variable representing year. An interaction effect significant at the 0.05 level indicated that the amount of change in net price between 1992–93 and 1999–2000 was different for students from different income levels.

In creating the two-way Analysis of Variance, the squares of the Taylorized standard errors, the variance between the means, and the unweighted sample sizes were used to partition total

[24]The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the t statistic required to ensure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Olive Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association* 56 (1961): 52–64.

sums of squares into within- and between-group sums of squares. These were used to create mean squares for the within- and between-group variance components and their corresponding F statistics. The F statistics were then compared with F values associated with a significance level of 0.05. Significant values of both the overall F and the F associated with the interaction term were required as evidence of a relationship between year and the row variable of interest. Means and Taylorized standard errors were calculated by the DAS. Unweighted sample sizes are not available from the DAS and were provided by NCES.

Appendix C—Supplementary Tables

Supplementary tables provide the various net tuition and net price measures by gender and race/ethnicity. These tables correspond to tables 4-A to 9 in the text. Differential changes by race/ethnicity or gender reflect differences in income levels and financial aid eligibility.

Table C-1.—Among all full-time, full-year undergraduates attending public 4-year research and doctoral institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Public research and doctoral					
Gender						
Male	$3,970	$4,736	$3,523	$4,217	$2,964	$3,219
Female	4,024	4,804	3,566	4,201	2,983	3,170
Race/ethnicity						
White, non-Hispanic	4,018	4,901	3,651	4,508	3,131	3,518
Black, non-Hispanic	3,925	4,526	2,938	3,051	1,918	1,897
Hispanic	3,153	3,866	2,352	2,971	1,681	2,002
Asian/Pacific Islander	4,403	4,668	3,685	3,762	3,080	2,605
American Indian/Alaska Native	3,282	4,441	2,547	3,264	1,596	2,027

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-2.—Among all full-time, full-year undergraduates attending public 4-year comprehensive and baccalaureate institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Public comprehensive and baccalaureate					
Gender						
Male	$2,926	$3,345	$2,315	$2,709	$1,990	$2,146
Female	2,870	3,375	2,242	2,638	1,912	2,024
Race/ethnicity						
White, non-Hispanic	2,967	3,542	2,461	3,027	2,133	2,372
Black, non-Hispanic	3,052	3,394	1,993	2,115	1,581	1,503
Hispanic	2,018	2,374	1,152	1,460	967	1,155
Asian/Pacific Islander	2,678	2,940	1,961	2,043	1,768	1,749
American Indian/Alaska Native	2,583	(#)	1,290	(#)	830	(#)

#Too small to report.

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-3.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year research and doctoral institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit research and doctoral					
Gender						
Male	$16,638	$19,683	$16,187	$19,075	$11,957	$12,899
Female	15,896	19,695	15,424	19,068	11,344	12,205
Race/ethnicity						
White, non-Hispanic	16,236	19,790	15,958	19,373	12,208	13,456
Black, non-Hispanic	14,765	17,459	13,549	16,039	7,105	7,508
Hispanic	16,526	18,800	15,389	17,675	9,108	9,629
Asian/Pacific Islander	17,619	21,280	16,847	20,280	12,097	12,282
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-4.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year comprehensive and baccalaureate institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit comprehensive and baccalaureate					
Gender						
Male	$12,511	$14,014	$11,732	$13,277	$8,339	$8,178
Female	12,149	13,991	11,270	13,229	7,846	7,572
Race/ethnicity						
White, non-Hispanic	13,153	14,984	12,555	14,487	8,914	8,593
Black, non-Hispanic	8,381	11,395	6,670	9,888	4,570	5,622
Hispanic	10,388	8,356	8,776	6,463	5,324	3,805
Asian/Pacific Islander	15,177	16,039	14,457	14,841	9,992	7,897
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-5.—Among all full-time, full-year undergraduates attending public 2-year institutions, average total tuition and net tuition amounts in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total tuition[1]		Net tuition 1[2]		Net tuition 2[3]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
			Public 2-year			
Gender						
Male	$1,391	$1,696	$1,064	$1,312	$933	$1,086
Female	1,394	1,496	958	1,007	818	811
Race/ethnicity						
White, non-Hispanic	1,503	1,717	1,135	1,360	976	1,113
Black, non-Hispanic	1,263	1,558	746	682	670	546
Hispanic	831	1,111	451	564	429	425
Asian/Pacific Islander	812	1,275	563	915	505	810
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Includes all tuition and fees charged during the academic year.

[2]Tuition and fees minus all federal grants such as the Pell Grant, SEOG, and other federally funded grant aid.

[3]Tuition and fees minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Table C-6.—Among all full-time, full-year undergraduates attending public 4-year research and doctoral institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public research and doctoral				
Gender								
Male	$12,194	$13,557	$11,452	$12,586	$10,841	$11,388	$9,686[5]	$8,977
Female	12,302	13,601	11,533	12,425	10,913	11,306	9,686[5]	8,783
Race/ethnicity								
White, non-Hispanic	12,186	13,618	11,575	12,843	11,023	11,770	9,903	9,460
Black, non-Hispanic	12,436	13,895	10,920	11,552	9,684	9,828	7,918	5,853
Hispanic	11,946	12,805	10,527	10,957	9,709	9,654	8,000	6,816
Asian/Pacific Islander	12,989	13,568	11,763	11,678	11,153	10,492	10,142	8,308
American Indian/Alaska Native	11,997	13,337	10,431	11,563	9,586	9,029	7,807	6,117

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

[5]The amounts for both males and females are both slightly higher than the corresponding total on table 7a ($9,684) because there are a few cases with missing gender. Therefore, the averages are based on a slighly smaller base sample.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-7.—Among all full-time, full-year undergraduates attending public 4-year comprehensive and baccalaureate institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public comprehensive and baccalaureate				
Gender								
Male	$10,237	$11,195	$9,284	$10,065	$8,942	$9,419	$7,785	$7,085
Female	10,274	11,162	9,242	9,842	8,893	9,186	7,650	6,674
Race/ethnicity								
White, non-Hispanic	10,095	11,341	9,306	10,389	8,985	9,722	7,811	7,311
Black, non-Hispanic	11,189	11,305	9,630	9,225	9,087	8,484	7,444	5,051
Hispanic	9,791	9,991	8,079	8,264	7,885	7,822	7,098	6,234
Asian/Pacific Islander	11,107	11,086	9,730	9,551	9,578	9,074	8,591	7,096
American Indian/Alaska Native	10,424	(#)	8,224	(#)	7,097	(#)	5,572	(#)

#Too small to report.

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-8.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year research and doctoral institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit research and doctoral							
Gender								
Male	$25,421	$29,263	$24,629	$28,195	$20,533	$22,110	$18,271	$18,550
Female	25,009	29,283	24,035	27,991	20,156	21,387	17,961	17,621
Race/ethnicity								
White, non-Hispanic	25,035	29,296	24,460	28,524	20,869	22,612	18,813	19,453
Black, non-Hispanic	25,075	27,442	22,816	25,020	15,568	16,784	11,945	11,253
Hispanic	25,692	29,062	23,359	26,950	18,043	19,150	15,101	12,682
Asian/Pacific Islander	26,362	30,685	25,106	28,249	20,671	21,475	18,354	17,888
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

Table C-9.—Among all full-time, full-year undergraduates attending private not-for-profit 4-year comprehensive and baccalaureate institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
	Private not-for-profit comprehensive and baccalaureate							
Gender								
Male	$19,793	$22,131	$18,448	$20,608	$15,372	$15,956	$13,242	$12,182
Female	19,419	22,316	17,850	20,592	14,879	15,481	12,668	11,209
Race/ethnicity								
White, non-Hispanic	20,331	23,328	19,154	21,989	15,893	16,617	13,780	12,407
Black, non-Hispanic	16,110	19,780	13,668	17,391	11,915	13,418	9,446	8,724
Hispanic	17,796	15,270	15,196	12,497	12,292	10,264	10,186	7,713
Asian/Pacific Islander	22,610	25,338	21,003	23,013	17,205	16,694	15,077	12,555
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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Table C-10.—Among all full-time, full-year undergraduates attending public 2-year institutions, average total price and various measures of net price in 1992–93 and 1999–2000, in constant 1999 dollars, by gender and race/ethnicity

	Total price[1]		Net price 1[2]		Net price 2[3]		Net price 3[4]	
	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000	1992–93	1999–2000
				Public 2-year				
Gender								
Male	$8,071	$9,192	$7,449	$8,316	$7,206	$8,063	$6,954	$7,458
Female	8,024	8,998	7,105	7,683	6,945	7,390	6,577	6,719
Race/ethnicity								
White, non-Hispanic	7,991	9,179	7,265	8,295	7,053	7,993	6,736	7,306
Black, non-Hispanic	8,442	8,734	7,425	6,801	7,156	6,632	6,845	5,668
Hispanic	8,361	8,816	7,472	7,323	7,358	7,108	7,025	6,707
Asian/Pacific Islander	8,202	9,113	7,521	7,798	7,443	7,473	7,312	7,264
American Indian/Alaska Native	(#)	(#)	(#)	(#)	(#)	(#)	(#)	(#)

#Too small to report.

[1]Total price of attendance, which is an estimate of the total amount of tuition, fees, books, supplies, and living expenses (which include room and board, transportation, and personal expenses) incurred by a student during the academic year.

[2]Total price of attendance minus all federal grants (Pell Grant, SEOG, and other federally funded grant aid) and state-funded grants.

[3]Total price of attendance minus all federal, state, institutional, and other grants. "Other grants" include employer reimbursements, National Merit Scholarships, and grants from private sources such as religious, community, or professional organizations.

[4]Total price of attendance minus all grants and all loans.

NOTE: All estimates for the 1992–93 academic year were converted from 1992 to 1999 dollars using the average annual Consumer Price Index for All Urban Consumers (CPI-U) published in the CPI-U table by the U.S. Department of Labor, Bureau of Labor Statistics.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study, 1992–93 (NPSAS:93) and 1999–2000 (NPSAS:2000).

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